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ABSTRACT

Supported by the Corporation for National Service, AmeriCorps' members serve with local and national organizations to meet community needs while earning education awards to help finance college or training. This report is the final product of the "AmeriCorps Tutoring Outcomes Study" of the AmeriCorps State/National Literacy Programs. The report presents the study's findings about the effects of AmeriCorps tutoring programs on children's reading achievement. The study collected information about: reading performance; classroom behavior; tutor experiences; and program characteristics. A pretest took place in fall 1999/winter 2000; the posttest occurred in spring 2000. Field staff collected information from 869 first, second, and third grade students who received tutoring from a representative sample of 68 AmeriCorps programs operating in schools and after-school programs. On standardized reading tests, students tutored by AmeriCorps members improved their reading performance from pretest to posttest more than the gain expected for the typical child at their grade level. Gains were statistically significant and large enough to indicate meaningful improvements in reading performance. Four effective practices were related to student gains: tutors met with students at least three times weekly; programs conducted formal evaluations; tutors were trained both prior to and during the tutoring program; and programs were moderately or fully implemented. (Includes 18 notes and extensive exhibits. Appendixes contain: Sample Selection and Weighting Procedures; Study Measures; and Analytic Procedures and Results of Effective Practices and Student Gains.) (NKA)

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CORPORATION FOR NATIONAL SERVICE

AmeriCorps Tutoring Outcomes Study

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Created in 1993, the ***Corporation for National Service*** engages more than 1.5 million Americans annually in improving communities through service. The Corporation supports service at national, state, and local levels through:

- AmeriCorps, whose members serve with local and national organizations to meet community needs while earning education awards to help finance college or training;

- Learn and Serve America, which helps link community service and learning objectives for youth from kindergarten through college as well as youth in community-based organizations; and

- The National Senior Service Corps (Senior Corps), the network of programs that helps Americans age 55 and older use their skills and experience in service opportunities that address the needs of their communities. Senior Corps includes the Retired and Senior Volunteer Program (RSVP), Foster Grandparent Program, and Senior Companion Program.

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AmeriCorps Tutoring Outcomes Study

February 28, 2001

Acknowledgements

This report is the final product of the *AmeriCorps Tutoring Outcomes Study* of the AmeriCorps*State/National Literacy Programs, prepared by Abt Associates for the Corporation for National Service's Office of Evaluation. The report presents the study's findings about the effects of AmeriCorps tutoring programs on children's reading achievement.

The report represents substantial contributions from many individuals during the course of the evaluation. Most importantly, the authors of this report—Marc Moss, Janet Swartz, Dawn Obeidallah, Gerrie Stewart and Diane Greene—gratefully acknowledge the participation and input of the AmeriCorps*State/National Program Directors who participated in the study. In addition, we thank the principals and teachers in the participating schools who graciously allowed us to come into their schools and classrooms and conduct the study. We thank them for their contributions of time and information.

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Executive Summary

This executive summary highlights the findings from the *AmeriCorps Tutoring Outcomes Study* about the effects of the AmeriCorps tutoring program. The summary begins with a description of AmeriCorps, followed by a brief discussion of the study design. The remainder of the summary presents descriptive information about the tutoring programs, tutors and students; the effects of the program on student reading achievement and classroom behavior; and the relationship between program components and student gains in reading.

AmeriCorps

The AmeriCorps program is the largest initiative of the Corporation for National Service (the Corporation), a public corporation established by the National Service Trust Act of 1993. The Corporation's mission is to provide opportunities for Americans of all ages and backgrounds to engage in service that addresses the nation's unmet needs in education, public safety, the environment, and other areas.

Education-related activities have been a priority for the Corporation since its inception. Most recently, the Corporation has directed substantial resources toward addressing the national issue of children's reading performance. This focus supports a national mandate as articulated in the America Reads initiative: *to help ensure that every child can read well and independently by the end of the third grade*. Toward that goal, the Corporation has encouraged its programs to provide literacy services to young readers. A typical AmeriCorps tutoring program in reading places members in schools and after-school programs to provide tutoring to elementary students. During the 1999-2000 academic year, over 330 AmeriCorps programs nationwide provided tutorial assistance in reading to more than 100,000 students in grades one, two and three.

Study Design

To inform program staff, Congress, and other stakeholders about the effects of AmeriCorps tutoring programs, the Corporation contracted with Abt Associates to conduct the *AmeriCorps Tutoroing Outcomes Study*.

Research Questions

The study addressed the following broad research questions:

- What is the effect of participation in AmeriCorps' tutoring programs on children's reading proficiencies and other classroom behaviors?
- Which components of the reading tutoring programs, considered to be effective practices, are associated with improved student outcomes in reading and classroom behavior? Do

students in programs implementing more practices identified by research as effective, show greater gains in reading than students in the other AmeriCorps tutoring programs?

Measures

The study collected four types of information to address these research questions:

- **Reading Performance.** Field staff tested students on the Woodcock-Johnson Psycho-Educational Battery-Revised. Scores from four subtests were combined to yield two key components of reading achievement: *reading comprehension*, based on passage comprehension and reading vocabulary subtests; and *reading skills*, based on word attack and letter-word identification subtests. In addition, teachers reported their view of changes in students' reading performance and attitudes in the classroom.
- **Classroom Behavior.** Teachers rated students using two short, standardized ratings scales: the Behavioral Academic Self-Esteem (BASE) and the cooperation sub-scale from the Social Skills Rating System (SSRS).
- **Tutor Experiences.** Tutors completed a brief questionnaire and an activity log to describe their experience and training as well as the nature of tutoring sessions.
- **Program Characteristics.** AmeriCorps program directors completed a brief questionnaire about their tutoring program.

Data Collection Schedule and Sample

The pretest took place in the late fall 1999/early winter 2000; the post-test occurred in spring 2000. Field staff collected information from 869 first, second and third grade students who received tutoring from a nationally representative sample of 68 AmeriCorps programs operating in schools and after-school programs.

Analytic Approach

Analysis of program effects examined student gains from pretest to post-test (post-test scores minus pretest scores). For the standardized measures, these gains were compared to scores reported by the test publisher to see whether students receiving tutoring gained more or less than expected for students in their grade level. To examine the relationship of student gains to program characteristics, a statistical technique called hierarchical linear modeling was used to incorporate student-level and program-level information.

Major Findings

Tutoring Programs and Activities

- ***Students' reading levels at pretest were generally in the low average to average range.*** Across all grades, approximately 20 percent of students scored in the low average range and 57 to 64 percent were average on reading comprehension. On reading skills, approximately 30 percent of students scored in the low average range and about half were average.

- ***Most AmeriCorps tutors were female (85 percent) and ranged in age from 17 to 80, with the average age of 27.*** Nearly half of the tutors were between 20 and 25 years of age. Most of the tutors have completed some college (82 percent) but only about one-third had a college degree.

- ***The majority of AmeriCorps tutoring programs implemented tutoring practices that the research has found to be effective in helping struggling students learn to read.*** More than 70 percent of programs were moderately or fully implemented, conducted formal evaluations, coordinated tutoring activities with classroom reading instruction, and provided training to tutors both before and during the course of tutoring.

Program Effects on Students' Reading Skills

- ***Tutored students at all grade levels improved their reading performance from pretest to post-test more than the gain expected for the typical child at their grade level.*** Reading comprehension and reading skills started out below grade-level; by year-end, students closed the gap and were reading at or near the grade-level expectation.

- ***The magnitude of reading gains was the same for students of different ethnic/racial backgrounds.*** White students and non-White students showed the same level of gains.

- ***Boys in first and second grade showed greater gains than girls on some subtests.*** Among first graders, boys made greater gains than girls in reading comprehension; among second graders, boys had greater gains than girls on reading skills.

- ***According to the ratings of classroom teachers, most students at all three grades improved their reading skills***, at least to some degree over the course of the year as a result of the AmeriCorps tutoring. However, these ratings had fairly low correlations with the standardized tests of student reading performance.

Program Effects on Students' Classroom Behavior

- ***Only boys in first and third grades showed significant gains on the BASE.*** Girls made no measurable gain from pretest to post-test. However, at pretest, girls at all grade levels received scores that were average to above average for elementary age students. Boys at all grades scored slightly below average at pretest; those in the first and third grade achieved significantly higher post-test scores (gains of 5 to 7 points).

- ***On the cooperation subscale of the SSRS, most students stayed at the same level from pretest to post-test. The*** majority of students were rated average or above average at pretest. However, of those students rated below average at pretest, 40 percent improved their skills to the average or above average level at post-test.

Program Factors Affecting Student Reading Achievement

- ***Four effective practices were significantly related to gains in students' reading skills***: 1) tutors met with students at least three times a week; 2) programs conducted formal evaluations; 3) tutors were trained both prior to and during the tutoring program; and 4) programs were moderately or fully implemented. For example:
  - Students in programs where they met with their tutors at least three times per week increased their *reading skills* scores between pretest and post-test by 2.1 points *more than their peers in programs that met less frequently*.
  - Students in programs where tutors received training both during and prior to tutoring obtained gains of 2.3 points *more on the reading test than students in programs where tutors did not have such training*.

- ***Students in programs implementing these four effective practices showed larger gains*** in reading skills (5.4 points) than their counterparts in programs that had three of these elements (2.5 points).

- ***Students in programs implementing none of the four effective practices showed no significant gains*** in reading skills from pretest to post-test.

- ***Only one effective tutoring practice was associated with significant gains in reading comprehension but not in the expected direction.*** Students in programs where tutors coordinated activities with classroom reading instruction were less likely to show gains in reading comprehension than students in programs where tutors did not engage in coordinating activities. This unexpected finding suggests that tutors who did not coordinate with classroom instruction may be qualitatively different from those tutors that did (e.g., less experienced), since their students had smaller gains in reading comprehension.

Summary

On standardized tests of reading, students tutored by AmeriCorps members improved their reading performance from pretest to post-test *more than the gain expected for the typical child at their grade level*. This finding holds for students at all grade levels tested. The gains were statistically significant and large enough to indicate meaningful improvements in reading performance. However, the fact that several effective tutoring practices were related to student gains increases our confidence in attributing the results to the AmeriCorps program.

Program staff anticipated that the special attention students received through tutoring would have positive effects on their classroom behavior. However, there were only modest effects in this area. In general, teachers rated most students in the normal or expected range at pretest.

Chapter 1
Introduction

Over the past several years, there has been increasing concern among educators, policy makers, and corporate leaders about the reading ability of America's youth. This has culminated in a national mandate, the America Reads initiative, whose goal is: *to help ensure that every child can read well and independently by the end of the third grade.* Efforts to support this initiative have been launched by schools, states, federal agencies and businesses. The Corporation for National Service, through its AmeriCorps program, also is working to improve the reading skills of young students through its tutoring programs in elementary schools.

This report describes the effects of AmeriCorps tutoring programs on students' reading achievement and classroom behavior. Chapter 1 provides a context for the study, describes the AmeriCorps tutoring program, and summarizes the study design and methods. Chapter 2 describes the students, tutors, and tutoring activities in the AmeriCorps program. The effects on students' reading performance and classroom behavior are presented in Chapter 3; the program characteristics affecting student reading achievement are discussed in Chapter 4. The report concludes with a summary of findings in Chapter 5.

National Focus on Reading Achievement

As we move into the 21st century, improving the educational achievement of American children and youth has become increasingly important due to the globalization of the economy and the expanding demands of a technological society. To succeed in this new environment, children and adults alike must be able to read and comprehend text without difficulty. Equally important, the ability to read well has other intangible benefits, including reading books for one's own enjoyment, reading to one's children, and reading to obtain information and to continue one's own learning, to name just a few. As a result, it is a well-accepted notion that to read well is a critical cornerstone for successful academic performance and meaningful professional and personal development. Thus, the reading performance of our children is a major issue not only among educational practitioners and researchers, but also among national, political and economic leaders, as well.

A major study on reading difficulties in young children noted that "large numbers of school-age children, including children from all social classes, have significant difficulties learning to read."[1] Further evidence comes from the results of the National Assessment of Educational Progress (NAEP) describing the educational attainment of the nation's students. The most

[1] Snow, C., Burns, M.S., and Griffin, P. (Eds.) (1998). *Preventing Reading Difficulties in Young Children.* Washington, DC: National Research Council.

recent NAEP results on reading indicate that there has been no substantive improvement in the achievement among 9-year-olds in the last eight to ten years. Furthermore, the average reading score for 9-year-olds obtained in 1999 was lower than the corresponding score from 1985.

Reading performance in the early grades is particularly important since it is a key determinant of future academic success. One researcher reported that a student's chances of graduating from high school are strongly related to his/her reading skills at the end of third grade.[2] Elementary school teachers also recognize the importance of reading; in another national study, more than half of the teachers surveyed responded that "building basic literacy skills is the most important goal in education."[3]

It is not surprising then, that the federal government has devoted significant attention and resources to the topic of reading achievement, particularly for students in the early elementary grades (K-3), both through major initiatives in the Department of Education and in other federal agencies. For example, in 1999, Congress passed the Reading Excellence Act (REA), a major federal initiative aimed at improving reading instruction in the early grades in schools where large numbers of children are struggling to learn to read. During the first year of implementation for REA (the 1999-2000 school year), seventeen states received REA grants with the requirement to use "scientifically-based" research methods in their approaches to training teachers to provide high-quality, effective reading instruction.

Research on Effective Practices

The concern with the reading ability of the nation's school children has led to increased attention on identifying effective practices to teach reading. While much of this research focuses on classroom instruction, there is also discussion of the role of volunteers. Educators and researchers believe that the use of volunteers to support student learning is valuable and fosters improved learning outcomes for children. Tutoring students in one-to-one or small group settings is generally perceived as an effective means of providing instruction because lessons can be tailored to individual students' specific needs. Volunteer tutoring may be particularly useful to teachers who have a large number of students in their classrooms and are unable to provide the same level of individualized attention that a tutor can provide.

There are few large, well-controlled studies, however, that examine the effectiveness of school-based volunteer activities,[4] nor is there overwhelming evidence about the effectiveness

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[2] Slavin, R.E., Karweit, N.L., Wasik, B.A., Madden, N.A., and Dolan, L. (1994). Success for All: A comprehensive approach to prevention and early intervention. In *Preventing Early School Failure*, R.E. Slavin, N.L. Karweit and B.A. Wasik (Eds.). Boston: Allyn and Bacon.

[3] National Center for Education Statistics' Schools and Staffing Survey, 1990-1991.

[4] National Research Council (1990). *Volunteers in Public Schools*. B. Michael (Ed.). Washington, D.C.: National Academy Press.

of tutoring as a way to teach reading to students who are having difficulty.[5] Nevertheless, in a review of several reading interventions, each of which includes a central tutoring component, reading researcher Barbara Wasik has identified a number of features or guidelines that may represent critical ingredients for an effective reading tutoring program.[6] At the same time, the America Reads initiative identified a similar set of program characteristics. Examples of these effective practices include:

- Intensity of tutoring:
  - Tutoring sessions occur at least three times a week
  - Tutoring sessions total at least 1.5 hours per week
  - Most of the tutoring is conducted one-to-one with students

- Administration/Implementation:
  - Tutors use a formal curriculum model in their sessions
  - Tutors coordinate their activities with classroom reading instruction
  - Tutors meet regularly with the school's reading specialist
  - Programs evaluate the effectiveness of their tutoring activities

- Tutor training:
  - Tutors receive training both prior to and during the course of tutoring

In addition, Wasik identified a number of other program features as important for positive reading outcomes: well-structured, carefully planned tutoring sessions; frequent assessment of students' progress; regular attendance by tutors and students; and fostering of positive, caring relationships among students, staff and tutors.

AmeriCorps

The AmeriCorps program is one initiative of the Corporation for National Service (the Corporation), a public corporation established by the National Service Trust Act of 1993. The Corporation's mission is to provide opportunities for Americans of all ages and backgrounds to engage in service that addresses the nation's unmet needs in education, public safety, the environment, and other areas. The goals are to encourage all Americans to engage in such service and to achieve direct and demonstrable results. In addition to AmeriCorps, the Corporation provides funding to two other major initiatives: Learn and Serve America and the National Senior Service Corps. Across these three programmatic areas, examples of service projects include:

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[5] Wasik, B. A. (1997). Volunteer tutoring programs: Do we know what works. *Phi Delta Kappan*, 79,282-287. See also Wasik, B. A. (1998). Volunteer tutoring programs in reading: A review. *Reading Research Quarterly*, 33, 266-291.

[6] Wasik, B. A. (1998). Using volunteers as reading tutors: Guidelines for successful practices. *Reading Teacher*, 51, 562-570.

- tutoring disadvantaged students;
- organizing neighborhood crime watches;
- converting vacant lots into neighborhood parks;
- leading community health awareness campaigns; and
- operating food banks.

AmeriCorps is composed of three programs: State/National; National Civilian Community Corps (NCCC) and Volunteers in Service to America (VISTA). The focus of this report is on the AmeriCorps*State/National program during 1999-2000, which enrolled 35,000 members nationwide in 961 sites. State/National programs are operated through state commissions and national service organizations. They support a national network of community-based programs providing opportunities for participants, referred to as "members," to engage in community service. In exchange for a year of full-time service, AmeriCorps members receive a stipend and earn an education award that may be used to pay for higher education or to help pay back existing student loans. Members serving part-time receive pro-rated stipends and education awards.

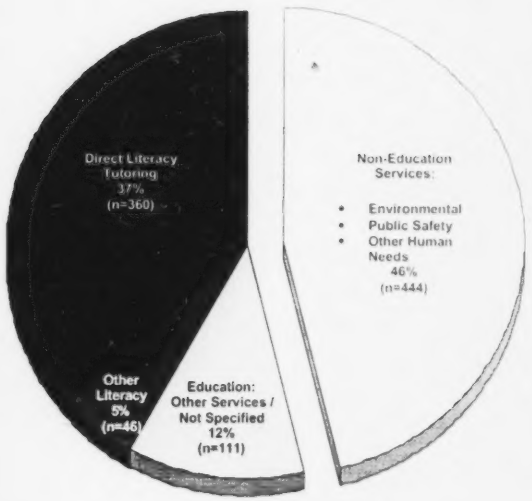
Education-related activities have been a priority for the Corporation since its inception. Indeed, education programs comprise the largest single area of service (of the four issue areas of need) as well as a significant portion of the Corporation's funding. Most recently, the Corporation has directed substantial resources toward the national issue of children's reading performance, and has encouraged its programs to provide literacy services to young readers. Members offer these services through a variety of strategies, including tutoring, mentoring, volunteering as classroom assistants, and the provision of other literacy-related activities (e.g., conducting trips to the library or organizing book distributions).

AmeriCorps Tutoring

Educational services and tutoring represent a major focus of the AmeriCorps*State/National programs. Slightly more than half of the AmeriCorps*State/National programs provide educational services in their communities (Exhibit 1.1). More than one-third (37 percent) provide direct instruction in the form of tutoring in reading.

Exhibit 1.1
Frequency of Educational and Literacy Services in AmeriCorps*State/National Programs

n=(961)



Source: Corporation for National Service.

A typical AmeriCorps tutoring program in reading places members in schools and after-school programs to provide reading tutoring to elementary students. During the 1999-2000 academic year, AmeriCorps programs nationwide provided tutorial assistance in reading to more than 100,000 students in grades one, two and three. On average, participating students received between 3 and 3.5 hours of tutoring a week, some part of which was individualized instruction. To ensure that the tutoring is as effective as possible, most AmeriCorps programs provide training to tutors before they begin working with students, covering topics such as how to teach reading and how to work with young children. Individual schools, classroom teachers, and district reading resource specialists also provide ongoing support and assistance to the members and their volunteers.

The AmeriCorps Tutoring Outcomes Study

To inform staff, programs, Congress, and other stakeholders about its literacy activities, the Corporation contracted with Abt Associates Inc. to conduct two related studies of AmeriCorps' literacy and tutoring programs. The first of these, the *Descriptive Study* of AmeriCorps Literacy Programs: State and National, had several goals: 1) to describe the programmatic structures and activities of AmeriCorps*State/National programs engaged in literacy development and reading tutoring; 2) to identify programs using effective instructional models likely to improve children's reading abilities; and 3) to describe the target populations receiving services. The findings were presented in *The Descriptive Study of the Corporation for National Service's Literacy Programs: Final Report* (November 1999).

This report focuses on the second study, the *AmeriCorps Tutoring Outcomes Study*, which was designed to measure the effects of AmeriCorps tutoring programs on the reading performance of students in grades one, two and three. AmeriCorps tutoring programs are grounded in the assumption that the provision of additional direct instruction in reading will produce positive effects on children's reading skills by the end of one year's participation. Furthermore, program designers also expect that students will improve their classroom behavior as a result of receiving tutoring services. That is, the special attention and adult interest that the students receive will increase their sense of worth and interest in the educational process, thereby leading to improved classroom behaviors. Additionally, as students improve their reading skills, their self-esteem and interest in learning will improve, which will also reinforce more adaptive classroom behaviors.

Study Design

Two broad research questions are addressed in this study:

- What is the effect of participation in AmeriCorps' tutoring programs on children's reading proficiencies and other classroom behaviors?

- Which components of the reading tutoring programs, considered to be effective practices, are associated with improved student outcomes in reading and classroom behavior? Do students in programs implementing more research-based effective practices show greater gains in reading than students in the other AmeriCorps tutoring programs?

To address the first question, trained field staff administered a standardized reading test at the beginning of tutoring (pretest) and at the end of the school year (post-test) to students in grades one, two and three. Teachers also rated students' classroom behaviors at the same time points. We then compared changes in students' scores with the standardization sample

upon which the test norms are based.[7] This tells us the extent to which students in the tutoring program gained more or less than expected based on the performance of the standardization sample, a nationally representative sample of students.

To address the second research question, we examined the strength of the relationship between characteristics of the tutoring program and student outcomes in reading achievement and classroom behavior.

The Study Sample

Results are based on pretest and post-test data from 869 students in grades one, two and three receiving tutoring services in 68 programs serving 93 schools nationwide. The design included a nationally representative of all AmeriCorps programs that provide tutoring to students at these grade levels.[8] The final sample included eligible programs willing to participate in the study and students whose parents provided written permission for testing. (We present a technical discussion of the sampling procedures and the construction of sampling weights in Appendix A.)

Measures

Four types of information were collected in this study. A brief description of each measure is provided below. More detailed discussion of the measures appears in Appendix B.

- Reading performance. We measured student reading performance using a set of sub-tests from the Woodcock-Johnson Psycho-Educational Battery-Revised, a well-known standardized battery of achievement tests. In addition, teachers completed a very short questionnaire designed specifically for this study to describe changes in students' reading in five areas: comprehension proficiency, mechanics proficiency, amount of time on task during reading instruction, interest in reading, and general interest in school.

- Classroom behavior. Teachers rated students using two short standardized rating scales:1) the Behavioral Academic Self-Esteem rating scale (BASE), which measures children's academic self-esteem, and 2) the cooperation sub-scale from the Social Skills Rating System (SSRS), which assesses children's academic competence, problem behaviors, and social skills.

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[7] The standardization sample is the sample of students whose test results are used to construct a set of norms to score a particular test or rating scale. For example, it is these scores that are used to calculate the percentile ranks and grade equivalent of each score. The standardization sample consists of a nationally representative group of students, not necessarily limited to low-achieving students.

[8] To construct a nationally representative sample from the smaller study sample, the actual numbers of programs and students are multiplied by a weighting factor, which is described in Appendix A. These weights were used in all analyses. However, for ease of interpretation, the actual sample sizes are shown on all exhibits.

- Descriptions of Tutoring Program Components. All of the participating AmeriCorps program directors completed a short questionnaire in spring 2000 that provided updated information about the nature of the tutoring provided to their students (e.g., program intensity, type and quality of instruction). In addition, the AmeriCorps tutors also completed a brief questionnaire about their training, education, age, and prior experience.

- Tutor experiences with students. To assess the nature of the tutoring activities at the student level, AmeriCorps tutors completed a short set of questions at both the pretest and post-test in a Record of Reading Activities or tutor activity "log." Information included the amount of tutoring both scheduled and actually received, the types of literacy activities that took place, and their impressions of student interest, motivation and engagement during the tutoring sessions.

Data Collection

The pretest occurred in late fall 1999/early winter 2000, with the post-test conducted in spring 2000. In addition to student test data, 293 tutors and 369 teachers provided further information through the rating scales and activity records collected at the same two points in time. A group of 65 trained field staff administered the reading tests individually to students and assisted in the collection of the tutor records and teacher ratings.

Analysis

Students' gains from pretest to post-test provided the basis for estimating the impact of AmeriCorps tutoring on reading skills and classroom behavior. Statistical tests of significance at each grade level indicated whether these gains were greater than would be expected for typical children in these grades. A multiple regression technique known as hierarchical linear modeling, which estimates the effects of program-level and student-level variables simultaneously, was used to investigate the relationship between program characteristics and student reading gains.

Limitations of the Study Design and Methodology

The confidence with which we can interpret the results of a study is related to the research design and methodology. Two features of this study are important to keep in mind when reading the results presented in subsequent chapters of this report.

First, the study design used national norms to determine grade-level expectations for the development of reading skills. The norms functioned as a comparison group which allowed us to estimate how non-tutored students were likely to have performed in reading during the school year. A study that collected student-level information on a variety of reading-related characteristics from a matched comparison group would have enabled a more detailed analysis of reading gains for different types of students and would have increased the confidence in

attributing gains to the program. However, it was not possible to identify and recruit an appropriate set of matched comparison schools and students to participate in the study. Thus, the study design relied on national norms as a reasonable and practical way to obtain an indication of students' expected gains in reading performance over a school year.

The second limitation of this study concerns the teacher ratings. One type of teacher rating, designed specifically for this study, asked teachers to make global judgments about student reading and therefore may be a less reliable measure than a standardized reading test that provides a direct and objective assessment of students' skills. A second type of teacher rating used in the study, measured students' classroom behaviors. This information was obtained for a substantially smaller sample than the one used in the analysis of reading performance (492 versus 869) because many teachers did not complete the student rating scales. The overall response rate is only 57 percent, with a response rate of 65 percent at first grade, 58 percent at second grade and 48 percent at third grade. The much-reduced samples jeopardize the representativeness of the group of students rated by teachers.

Chapter 2
Description of Tutoring Programs and Activities

This chapter presents information on the AmeriCorps tutoring programs in the *AmeriCorps Tutoring Outcomes Study*. We begin with a brief description of the students who were tutored as part of the AmeriCorps program, followed by a more detailed picture of the tutors and tutoring programs. The last section of the chapter describes the use of research-based effective practices among this sample of AmeriCorps programs.

Student Characteristics

This study collected limited information about each student—the children were too young to reliably provide family demographic information and parents were not interviewed as part of the study. Thus, demographic information was restricted to gender and ethnicity, information that testers or teachers were able to provide. Students pretest scores on reading achievement tests also were collected as part of the study; these scores provide an indication of how these students compare with their peers nationally at or near the beginning of tutoring.

Demographic Characteristic

The study sample includes 869 children with reading test scores at pretest and post-test, nearly evenly distributed across grades: 294 in first grade, 292 in second grade and 283 in third grade. (For a detailed discussion of how these students were selected for the study, see Appendix A.) At grades two and three, the sample was fairly evenly split between boys and girls; however, at grade one, the sample was 59 percent female and 41 percent male (Exhibit 2.1). Across the three grades, 51 percent of children in the sample were white, 23 percent African-American, 20 percent Hispanic, and 7 percent Native American, Pacific Islander, Asian, or mixed ethnicity.

Exhibit 2.1
Gender of Students by Grade

Gender	Grade 1 (n = 294)	Grade 2 (n = 292)	Grade 3 (n = 283)
Male	41%	48%	51%
Female	59%	52%	49%

Source: Field staff documentation.

Pretest Reading Achievement Level

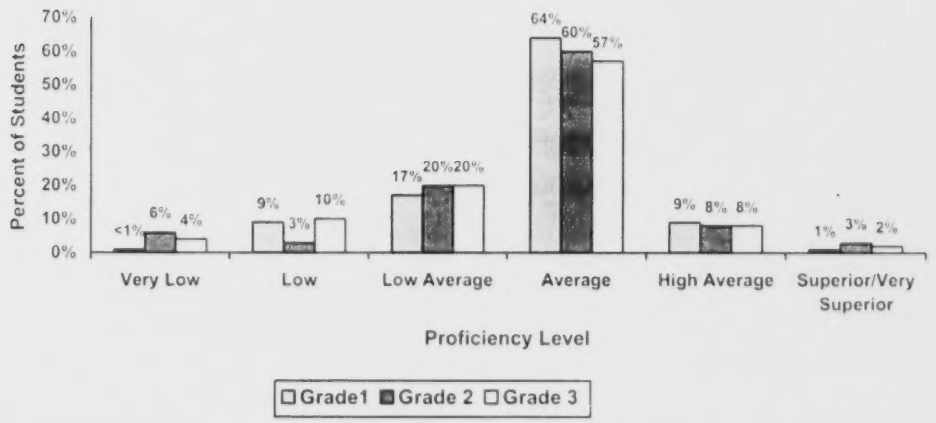
Student reading levels are based on four subtests of the Woodcock-Johnson Psycho-educational Battery—Revised (WJ-R): letter-word identification, word attack, passage comprehension, and reading vocabulary (examples of each of these subtests appear in Appendix B). The subtests combine to create two key components of reading achievement:

- Reading skills (word attack and letter-word identification)
- Reading comprehension (passage comprehension and reading vocabulary).

Taken together, these two scores represent the building blocks needed to become competent readers; they measure critical skills involved in the mechanics of reading as well as comprehension of text.

At pretest, 57 to 64 percent of students obtained reading comprehension scores in the average range for their grade, with minimal differences across the three grades (Exhibit 2.2).[9] Approximately 20 percent of the students' reading comprehension scores were "low average" and another 10 percent of scores were "low" or "very low" for their grade. Only about 10 percent of the sample scored in the high average to superior range.

Exhibit 2.2
Students' Reading Comprehension Scores at Pretest, by Grade

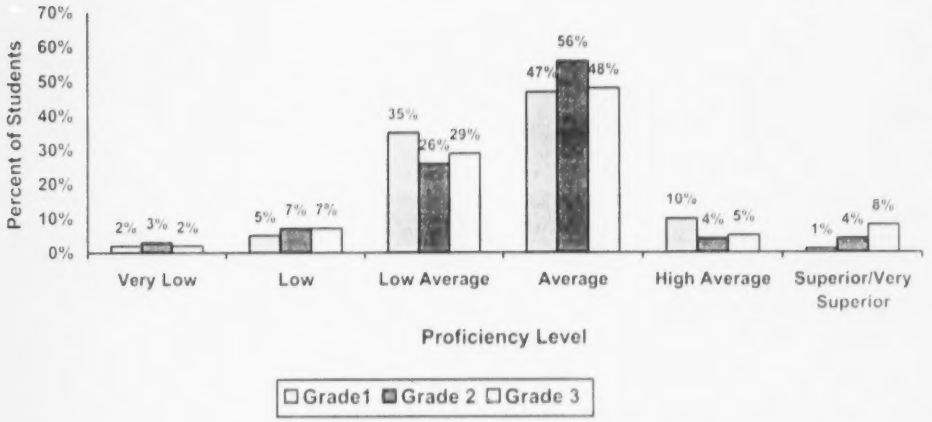


Source: Woodcock-Johnson Psycho-Educational Battery-Revised.

[9] These classifications are based on information provided by the test publisher, which enables students' standard scores to be classified as below average to above average for each grade level.

Students' reading skills scores at pretest were, on average, lower than their reading comprehension scores. These differences are greatest at first grade, where 35 percent of the students scored in the "low average range" and another 7 percent scored "low" or "very low" (Exhibit 2.3). Again, only about 10 percent scored in the high average to superior range at pretest.

Exhibit 2.3
Students' Reading Skills Scores at Pretest, by Grade



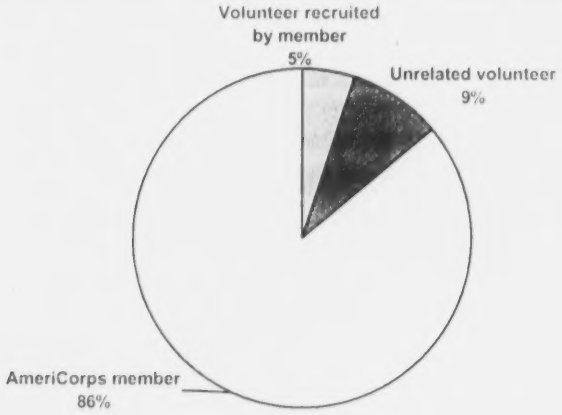
Source: Woodcock-Johnson Psycho-Educational Battery-Revised.

Thus, the reading ability of the students in the AmeriCorps tutoring programs at the start of the school year seem to be in the low average to average range. These students do not display superior reading skills for their grade level, nor do they display very low levels of reading performance.

Tutor Characteristics

Tutors in AmeriCorps programs can be AmeriCorps members or volunteers recruited by members. However, most (86 percent) of the tutors involved in the AmeriCorps tutoring program during the 1999-2000 year were AmeriCorps members (Exhibit 2.4).

Exhibit 2.4
Affiliation of AmeriCorps Tutors

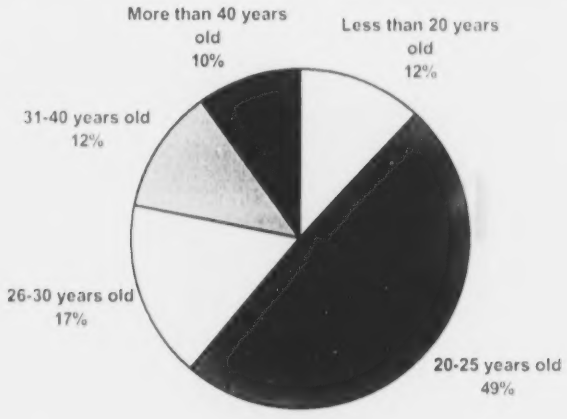


Source: Tutor Questionnaire (n=293).

The tutors were primarily female (85 percent) and ranged in age from 17 to 80, with the average age 27. Nearly half of the tutors were between 20 and 25 years of age, and another 17 percent were between 26 and 30 years of age (Exhibit 2.5). There were more tutors who are AmeriCorps members (70 percent) in this 20-30 age bracket than volunteers (42 percent). Volunteers were more likely than AmeriCorps members to be less than 20 years of age or more than 40 years of age.

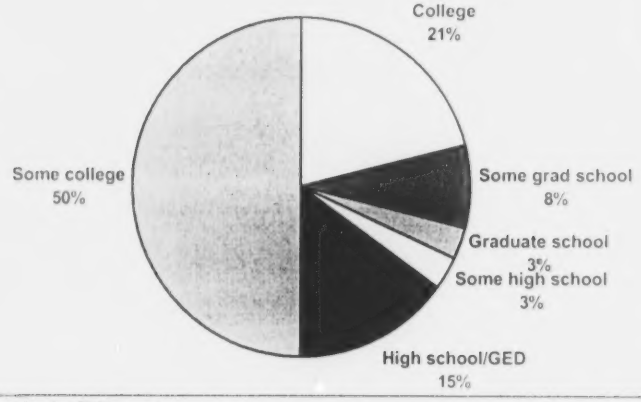
The majority of AmeriCorps tutors do not have a college degree (Exhibit 2.6). Half of the tutors have some college education prior to a degree and 15 percent have only a high school diploma or GED certificate. About one-fifth of the tutors have a college degree and 11 percent have attended graduate school or attained a graduate degree. A larger percentage of AmeriCorps members (34 percent) than volunteers (18 percent) have a college degree.

Exhibit 2.5
Age of AmeriCorps Tutors During 1999-2000



Source: Tutor Questionnaire (n=293).

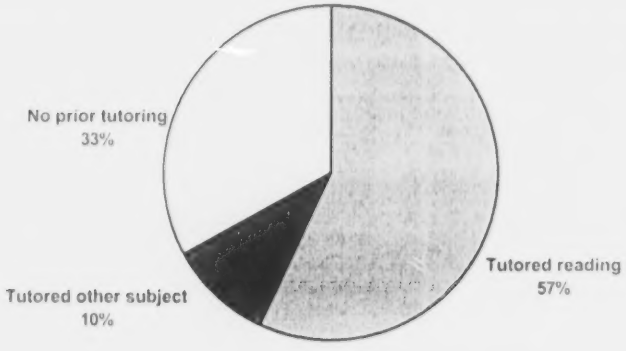
Exhibit 2.6
Level of School Completed by AmeriCorps Tutors



Source: Tutor Questionnaire (n=293).

Two-thirds of the tutors have prior tutoring experience in reading or another subject (Exhibit 2.7), while one-third have no prior tutoring experience. There were no differences in prior tutoring experience between AmeriCorps members and volunteers.

Exhibit 2.7
Tutors' Prior Experience



Source: Tutor Questionnaire (n=293).

Effective Tutoring Practices

As described in Chapter 1, the research on reading achievement identifies several factors of classroom instruction and individual tutoring as effective in improving students' reading skills. This section presents information on the prevalence of these effective practices among AmeriCorps programs. The study collected information from program directors and tutors about eight effective practices noted in the literature, which can be grouped into three broad categories:

- Intensity of tutoring:
  - Tutoring sessions occur at least three times a week
  - Tutoring sessions total at least 1.5 hours per week
  - Most of the tutoring is conducted one-to-one with students

- Administration/Implementation:
  - Tutors use a formal curriculum model in their sessions
  - Tutors coordinate their activities with classroom reading instruction
  - Tutors meet regularly with the school's reading specialist
  - Programs evaluate the effectiveness of their tutoring activities

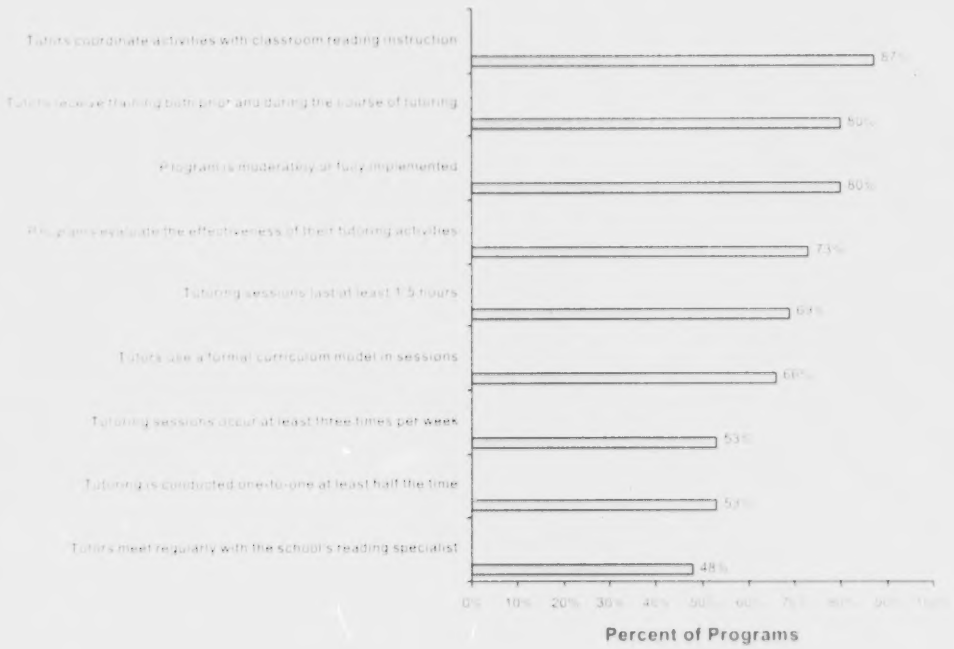
- Tutor training.
  - Tutors receive training both prior to and during the course of tutoring

In addition to the eight effective practices listed above, we also asked program directors about the status of implementation. A fully implemented program is one in which all of the components are available and functioning as planned (e.g., staff are hired and working with students, materials are selected and on-site, participants are recruited and involved in activities). We would expect that programs near or at full implementation are more likely to be successful. Thus, for this study, we were interested in examining the level of implementation and added this to our list of effective practices:

Program is at least moderately or fully implemented.

The prevalence of these nine specific practices among the AmeriCorps programs in the study is summarized in Exhibit 2.8. More detailed information about each of these broad areas of effective practices is presented below.

Exhibit 2.8
Tutoring Characteristics Prevalent Among AmeriCorps*State/National Programs



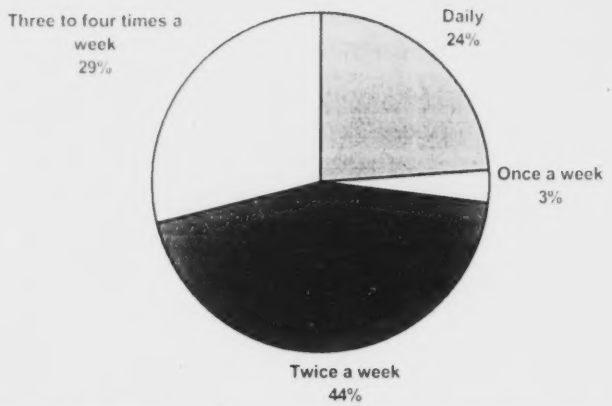
Source: Program Director Questionnaire (n=68) and Tutor Logs averaged across 68 programs.

Intensity of Tutoring

Frequency of Tutoring Sessions

Nearly all of the AmeriCorps tutors met with the students at least twice a week (Exhibit 2.9). About half (53 percent) of the program directors reported that tutors met with students at least three times a week, which is the amount suggested in the literature for an effective tutoring program. A quarter of the program directors indicated that tutors met daily with students.

Exhibit 2.9
Frequency of Tutoring Sessions in AmeriCorps Tutoring Programs



Source: Program Director Questionnaire (n=68).

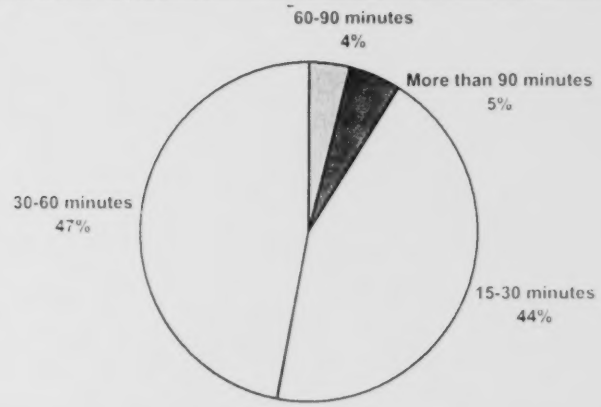
Length of Sessions

Nearly half (47 percent) of the program directors reported that tutoring sessions lasted between 30 and 60 minutes; another 44 percent of program directors indicated that sessions lasted between 15 and 30 minutes (Exhibit 2.10). When we consider the length of each session in combination with the number of sessions per week, we find that the majority of program directors (66 percent) reported that tutoring was provided more than 1.5 hours per week. The tutors' own estimates of the length of tutoring sessions were slightly higher. When asked about the length of tutoring sessions, 69 percent of tutors indicated that they tutored students more than 1.5 hours per week. Across all tutors, the average length of tutoring was 2.7 hours per week, with a range from 15 minutes to more than 11 hours per week. In just over half of the programs (52 percent), the program director's report was less than the estimate provided by the tutors in that program.[10] It is not possible to determine

[10] For this analysis, the estimates of the length of tutoring sessions were averaged across tutors in each program in order to obtain a program estimate that could be compared to the program director's report of intensity.

whether the program directors were underestimating the intensity of tutoring or the tutors were overestimating this figure. However, the differences do not appear to be large enough to raise concerns about either estimate.

Exhibit 2.10
Length of Tutoring Sessions in AmeriCorps Tutoring Programs



Source: Program Director Questionnaire (n=68).

Size of Tutoring Group

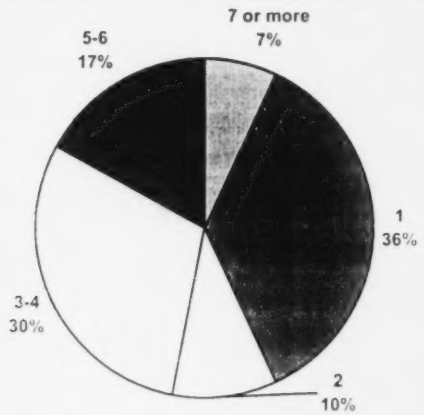
More than a third of program directors reported that tutors met with students one-to-one and another 40 percent indicated that tutoring took place in small groups of two to four students (Exhibit 2.11). Tutors also provided information about the size of the tutoring group by indicating the amount of time each week they tutored students individually or in groups. Using this information, we computed the proportion of time that tutors met individually with students and averaged this for each program. In 53 percent of programs, tutors spent at least half of their time tutoring in individual sessions with students. The use of either one-to-one or small-group tutoring is generally perceived to be an effective means of providing instruction because lessons can be tailored to individual students' needs.

In the vast majority of programs, students had the same tutors consistently from session to session—in 77 percent of programs there was only one tutor per student and in 14 percent of programs two tutors shared this responsibility. In only nine percent of programs were there more than two individuals providing tutoring to the same student across sessions. Tutors did not always work with the same students for the whole year. Although most students (85 percent) had one tutor, a small proportion of students had two (13 percent) or more (2 percent) tutors over the course of the year.

Taken together, this information suggests that most students met with a tutor consistently over the course of the year either individually or in small groups, which would increase the likelihood of developing a close relationship with the tutor. In fact, tutors generally rated

students as having a very positive working relationship during the tutoring session, with an average rating on this dimension of 3.8 on a 4-point scale. In addition, tutors rated students high on their motivation to learn (average rating of 3.5 out of 4) and their focus and involvement during the tutoring session (average rating of 3.6 out of 4).

Exhibit 2.11
Number of Students per Tutor in AmeriCorps Tutoring Programs



Source: Program Director Questionnaire (n=68).

Program Administration and Implementation

Program directors and tutors answered several questions about the tutoring program (e.g., the type of curriculum used, the extent of program implementation, coordination with classroom instruction), which are discussed below.

Level of Program Implementation

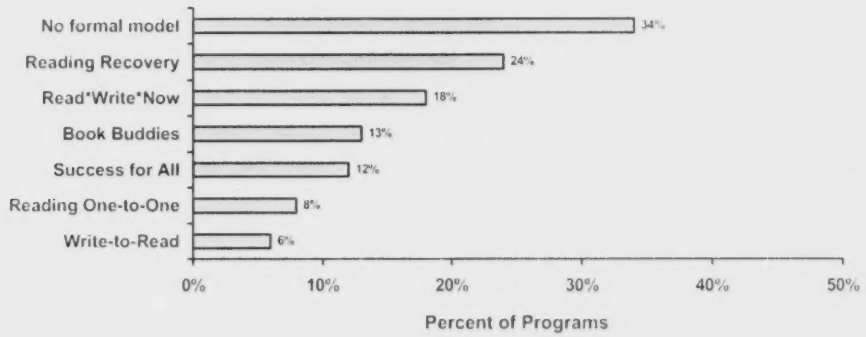
Program directors assessed whether their tutoring programs had reached full implementation, defined as having all components in place and operating as planned. One-third of the program directors indicated that their program was fully implemented, with another 47 percent indicating moderate implementation (i.e., most but not all components in place and operating as planned). Thus, 80 percent of programs could be characterized as either fully or moderately implemented. Sixteen percent of program directors indicated their program was partially implemented and another three percent rated their program as only at a low level of implementation.

Use of Formal Instructional Models

There are a number of commercially available instructional models that can be used as part of a tutoring program in reading. Nearly two-thirds of AmeriCorps programs used some sort of formal model, with many incorporating more than one model. The most commonly used

models were Reading Recovery, used by 24 percent of programs, and Read*Write*Now, used by 18 percent of programs (Exhibit 2.12).

Exhibit 2.12
Instructional Models Used in AmeriCorps Turing Programs



Source: Program Director Questionnaire (n=68).

Tutors provided information about the reading and academic activities they undertook with students. Virtually all reported helping students with reading comprehension (97 percent) and mechanics (94 percent), as well as listening to students reading (98 percent). Somewhat less frequently, tutors read aloud to students (80 percent). Many tutors (73 percent) also helped students with skills in other areas besides reading.

Coordination with Reading Specialist and Classroom Instruction

In about half of the programs (48 percent), tutors planned their instructional activities in coordination with the school's reading specialist. Among this subset of programs, program directors indicated that the reading specialist provided the following assistance:[11]

Helped plan reading activities for students' tutors (39 percent);
Provided ongoing monitoring or consultation during the school year (64 percent);
Supplied materials (49 percent); and
Assisted with instruction (53 percent).

The tutors in most programs (87 percent) also coordinated their tutoring with classroom instruction, most often through regular meetings with the classroom teacher (100 percent) and less frequently (24 percent) through formal written contact.

[11] Percentages add to more than 100 percent because program directors could indicate more than one type of assistance.

Program Evaluation

The program director questionnaire included one question about whether programs assess the effectiveness of their tutoring activities. The majority of program directors (73 percent) reported that they do conduct a formal evaluation. This information can contribute to program improvement, which is why conducting an evaluation is one of the effective practices cited in the research literature.

Tutor Training

Training tutors, particularly those with limited prior experience tutoring reading, is a critical component of a successful tutoring program. The majority of program directors (81 percent) indicated that training sessions were conducted before tutoring sessions began; 86 percent reported that training took place during the provision of services; and 80 percent noted that training occurred *both prior to and during* the program year. More than 90 percent of directors reported that AmeriCorps tutors received training in reading and reading materials. In addition, approximately 70 percent of directors reported that tutors received materials or training in child development.

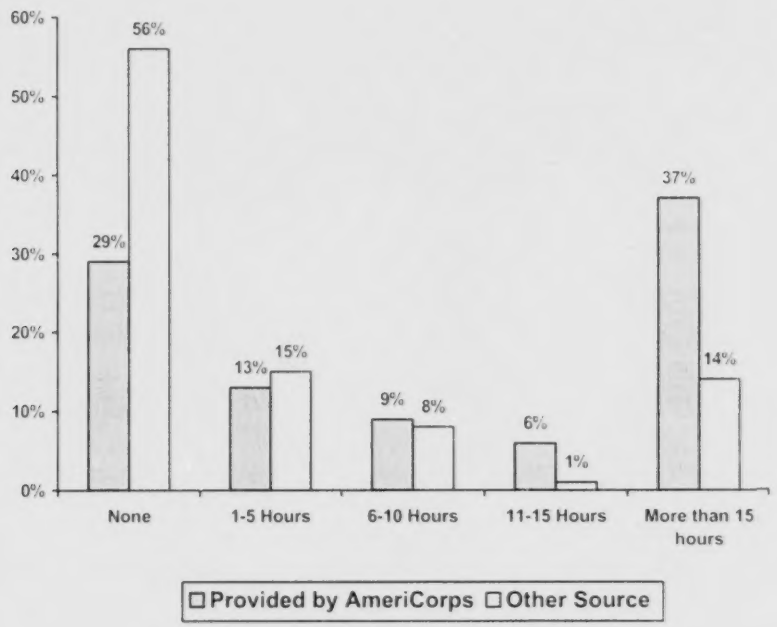
Training Prior to Tutoring

Tutors answered more detailed questions about the length, provider and subject area of their training. Prior to the program year, 77 percent of tutors reported participating in training, which is fairly similar to program directors' reports. There were slight differences in prior training experiences for AmeriCorps members and volunteers; nearly 80 percent of AmeriCorps members reported receiving training prior to the program year, compared with 67 percent of volunteers.

AmeriCorps staff most often provided this training to tutors. More than one-third of tutors (37 percent) received more than 15 hours of training from AmeriCorps and another 15 percent received between 6 and 15 hours of training (Exhibit 2.13). In contrast, more than half of the tutors (56 percent) indicated that they did not receive training from any source other than AmeriCorps prior to the start of tutoring, and 23 percent received more than five hours of such training.

Prior to the start of tutoring, tutors received training primarily in reading or general tutoring skills. About three-quarters (77 percent) of tutors indicated that they received training in reading prior to tutoring, and 67 percent learned about general tutoring skills. In addition, a smaller percentage of tutors received training in math (11 percent) or another subject (16 percent). Most tutors received training in more than one subject (e.g., reading and general tutoring), and very few (3 percent) did not receive training in *either* reading or general tutoring skills.

Exhibit 2.13
Amount of Training Received by Tutors Prior to Program



Source: Tutor Questionnaire (n=293).

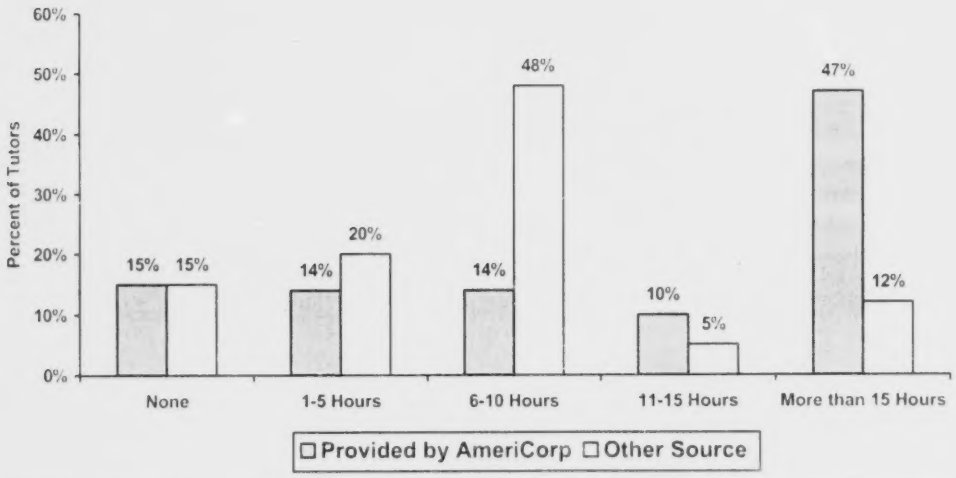
Training During the Program Year

The majority of tutors (85 percent) indicated that they participated in training during the time they were tutoring.[12] There were no differences in this training between AmeriCorps members and volunteers.

Almost half of the tutors (47 percent) reported receiving more than 15 hours of training from AmeriCorps during the 1999-2000 program year (Exhibit 2.14). However, 15 percent indicated that they received no training from AmeriCorps during the program year. Most tutors also received training from other sources during the program year, although of lesser duration than AmeriCorps training, with about half of the tutors receiving between six and ten hours of such training.

[12] This question was answered by only 183 of the 293 tutors, perhaps because the question was on the second page of the survey and respondents did not continue beyond the first page. However, since the proportion reporting training is quite similar to the percentage of project directors indicating that training took place, the tutor estimates do not appear to be biased by the lower response rate.

Exhibit 2.14
Amount of Training Received by Tutors During 1999-2000



Source: Tutor Questionnaire (n=183 of the 293 tutors).

Summary

Many AmeriCorps tutoring programs have program characteristics consistent with the research on effective practices. For example, 80 percent or more of the programs coordinate tutoring activities with reading instruction, are moderately or fully implemented, and train tutors prior to and during the course of tutoring. However, not all effective practices are as prevalent among these programs. Only about half of the programs tutor students individually and at least three times a week, or have tutors meet regularly with the school's reading specialist.

The relationship of these effective practices to student outcomes in reading and classroom behavior will be examined in Chapter 4. The next chapter presents overall student gains from the start to end of the 1999-2000 program year.

Chapter 3
Program Effects on Student Achievement and Classroom Behavior

This chapter presents the findings about the tutoring programs' effects on students' reading performance and classroom behavior. Results include gains in reading achievement, teachers' ratings of student reading gains, and analyses of changes in students' classroom behavior.

Student Reading Performance

This section first reports on students gains from pretest to post-test on the Woodcock-Johnson Psycho-Educational Battery-Revised, the standardized test of reading achievement used in the study. The second part of the section presents teachers' judgments about changes in students' reading performance and classroom behavior.

Standardized Reading Tests

The tutored students at all grade levels improved their reading performance from pretest to post-test more than the gain expected for the typical child at their grade level. Reading comprehension and reading skills started out below grade-level; by year-end, students closed the gap and were reading at or near the grade-level expectation.[13] As presented in Exhibit 3.1, the reading gains, on average, range from 3.7 to 6.6 points, depending on the grade and reading score. All of the gains are statistically significant, most at the .01 or .001 level.

Exhibit 3.2 displays the average pretest to post-test gains relative to grade-level expectations for the three grades in the study. The gains are most pronounced for second graders who, on average, are performing at or slightly above expectations on both reading measures at post-test. Reading scores can also be characterized in terms of percentile ranks that represent each student's standing relative to the norming sample. For example, on average, first grade students performed at the 38th percentile at pretest (in other words, 38 percent of the norming sample obtained lower scores), while they performed at the 45th percentile at post-test, on average.

These results indicate that students at all grade levels made statistically significant gains in reading skills and reading comprehension. At post-test, students in all grades were performing at or near their grade-level expectations. However, as discussed in Chapter 2, the students

[13] Grade-level expectations are based on the grade-standardized scores for the norming sample. These scores have a mean of 100 and a standard deviation of 15 at each grade level. At any point in time, by definition, the expected level of performance for the typical child (i.e., the norming sample) would be a score of 100. The Woodcock-Johnson tests allow for the conversion of raw scores to several types of scores. For this analysis, grade-standardized scores and percentile ranks were used.

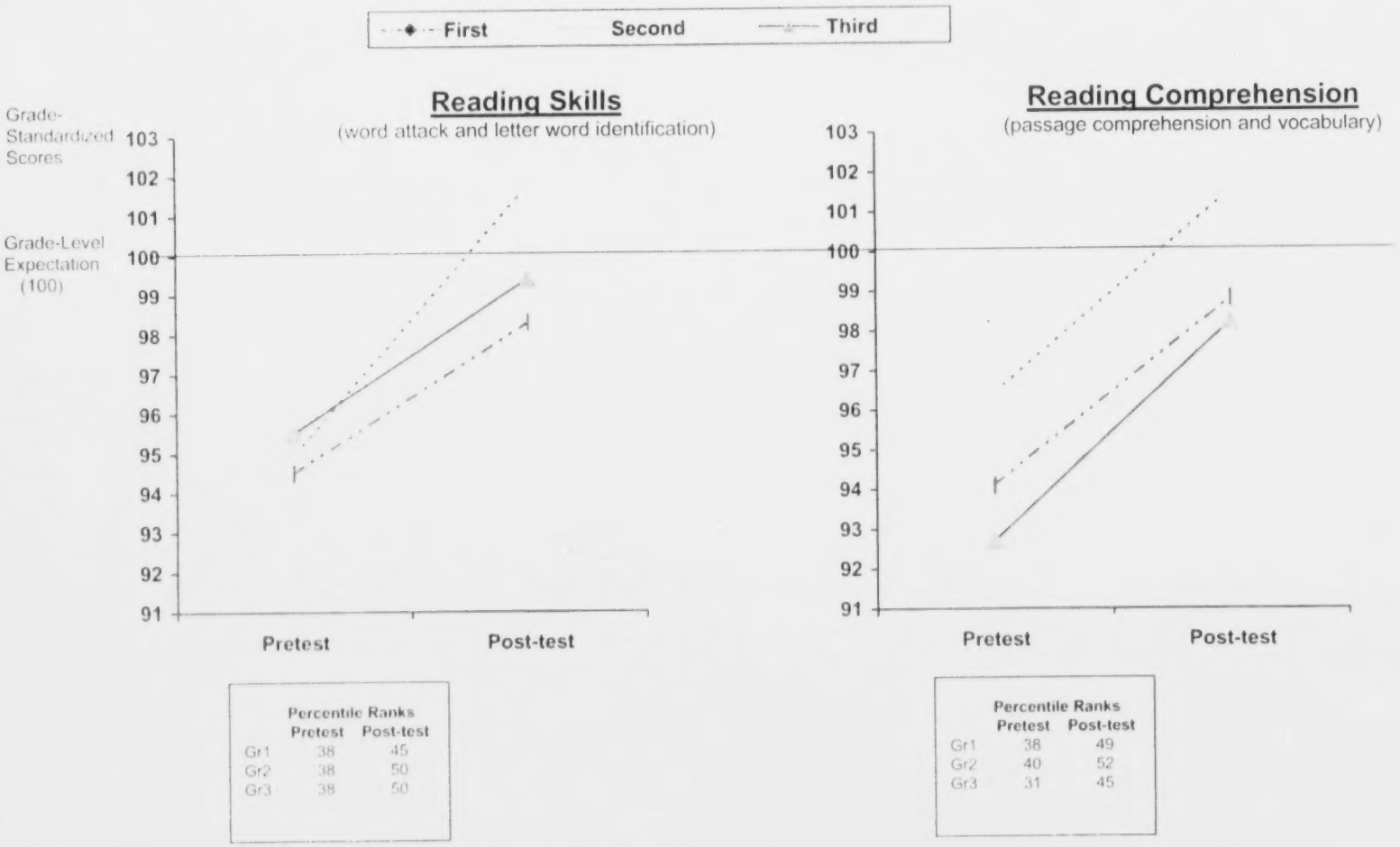
Exhibit 3.1
Student Gains on Reading Skills and Reading Comprehension by Grade

	Grade 1			Grade 2			Grade 3		
	Pretest	Post-test	Gain	Pretest	Post-test	Gain	Pretest	Post-test	Gain
Reading Skills (word attack and letter/word identification)		N=283			N=283			N=278	
Mean	94.5	98.3	3.7***	95.0	101.7	6.6***	95.4	99.4	4.0**
Std error	1.8	1.3	1.2	1.4	2.4	1.8	1.6	2.4	1.5
Reading Comprehension (passage comprehension and reading vocabulary)		N=257			N=275			N=278	
Mean	94.1	98.8	4.8***	96.4	101.5	5.1*	92.7	98.2	5.5**
Std error	1.7	1.6	1.5	1.4	2.0	2.2	1.3	1.7	2.0

* p< .05, ** p< .01, *** p< .001

Source: Woodcock-Johnson Psycho-Educational Battery-Revised.

Exhibit 3.2
Student Performance on the Woodcock-Johnson Reading Test



Source: Woodcock-Johnson Psycho-Educational Battery-Revised.

participating in the tutoring program were, on average, not far below grade-level expectations at pretest.

In addition to being statistically significant, these gains are large enough to indicate meaningful changes in reading performance. One way to determine this is to look at the standard deviation (or variation around grade-level means) reported by the test publisher. The AmeriCorp results represent gains ranging from .25 to .33 of a standard deviation. According to the convention in the field, gains of this size are "small but educationally significant," which indicate real improvement in reading skills.[14]

We also conducted analyses to see whether gains in reading varied by students' ethnicity or gender. With regard to ethnicity, there were no differences in the reading score gains between White students and non-White students. This was true for both measures, reading skill and reading comprehension.[15] Further, these results are consistent across the three grades.

There were, however, some differences in results associated with gender. Second grade boys showed larger gains in reading comprehension than girls; boys gained 7.4 points from pretest to post-test, compared to 3.1 points for girls. In addition, first grade boys obtained larger gains than girls in reading skills (5.4 points from pretest to post-test for boys compared to 2.6 points for girls).

Although there were significant gains on average across all students, there also were substantial differences in student gains across the 68 tutoring programs (Exhibit 3.3). The distribution of average scores is similar across both test measures. Approximately 30 percent of the programs had an average gain of 5 or more points. In contrast, about one-fifth of the programs showed no gain or a small loss on both tests. Possible explanations for differences across programs are discussed in the next chapter.

Teacher Ratings of Reading Gains

Teachers rated students' improvement on five dimensions: reading comprehension, reading mechanics, time on task, interest in reading, and interest in school. This was not a standardized measure, but rather a series of questions designed specifically for this study. Teachers indicated that the majority of students at all grade levels improved "a lot" or "some" over the course of the year as a result of the AmeriCorps tutoring (Exhibit 3.4). For grade 1

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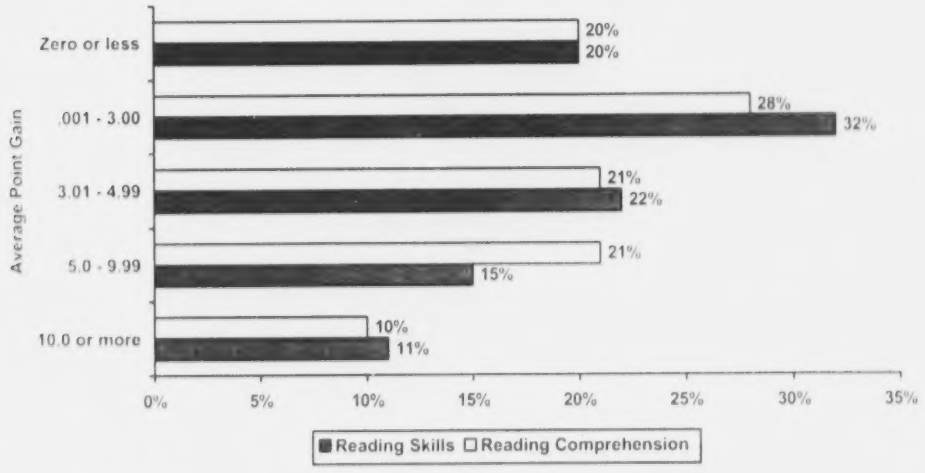
[14] We applied the definitions suggested by Cohen in *Statistical Power Analysis for the Behavioral Sciences* (1988), who proposed that differences of .20 to .50 of a standard deviation correspond to a small effect. For instance, a five-point gain from pretest to post-test corresponds to a gain of one-third of the standard deviation (the five-point gain is divided by 15, the standard deviation of the distribution of grade-standardized test scores in the norming sample).

[15] The non-White group includes students who are Black, Hispanic, of mixed race, or a member of another ethnic group. These groups were combined in order to have a large enough sample to conduct statistical tests of significance.

students, teachers reported that more than 40 percent of students improved "a lot" on reading mechanics, time on task and interest in reading. The same pattern did not hold for second and third grade students. According to teachers, the extent of improvement in these areas was

Exhibit 3.3

Distribution of Average Program-Level Gains



Source: Woodcock-Johnson Psycho-Educational Battery-Revised, averaged across students within each of 68 programs.

more modest for these students. For reading comprehension, students at each grade level were more likely to be rated as improving "some" (43 to 57 percent) than improving "a lot" (20 to 31 percent).

Exhibit 3.4
Teacher Ratings of Student Gains by Grade

Area of Improvement	Grade 1 (n-225)		Grade 2 (n=215)		Grade 3 (n=189)	
	A Lot	Some	A Lot	Some	A Lot	Some
Reading Comprehension	31%	43%	20%	46%	22%	57%
Reading Mechanics	42	34	29	42	27	52
Time on Task	42	50	19	53	11	76
Interest in Reading	46	36	26	42	23	54
Interest in School	39	40	19	49	24	49

Source: Classroom Teachers.

To assess the accuracy of the teacher ratings, we matched the ratings with student gains on the Woodcock-Johnson. For first grade students, teacher ratings of improved reading comprehension were moderately correlated (.30) with student gains on the reading comprehension subtest of the Woodcock-Johnson. It is interesting to note that student gains

in reading comprehension also were correlated .35 with improved interest in reading and .31 with increased interest in school. However, teacher ratings of improvements in reading mechanics were modestly correlated .20 with gains on the reading skills subtest of the Woodcock-Johnson. At the second and third grade levels, teacher ratings of student improvements generally had weaker correlations of less than .20 with gains on the achievement test. These low correlations may be due to the reliability of the teacher rating measure, which was designed for this study and may have been too general to capture small student gains on the reading test. Another factor may be the accuracy of teachers' perceptions of student performance. Either way, these low correlations suggest that the ratings are not a robust measure and should be interpreted with caution.

Classroom Behaviors

An expected outcome of the AmeriCorp tutoring program is that students would improve their classroom behavior. That is, the special attention that students receive during tutoring would increase their sense of self-worth and their interest in school, thereby leading to improved classroom behavior. To explore these anticipated outcomes on students' classroom behavior, the study included two standardized teacher rating scales: the BASE and the cooperation subscale of the SSRS.

Behavioral Academic Self-Esteem (BASE)

The BASE assesses students' self-esteem across five dimensions:

- Student initiative (e.g., willing to undertake new tasks, asks questions when does not understand);
- Social attention (e.g., quiet in class, speaks in turn);
- Success/failure (e.g., deals with mistakes easily and comfortably, takes criticism in stride);
- Social attraction (e.g., child's company is sought by peers, acts as leader with peers); and
- Self-confidence (e.g., readily expresses opinions, appreciates own work).

Exhibit 3.5 presents the findings for the BASE for each grade level. The findings are expressed as standardized scores, where a score of 100 represents the average score obtained by the standardization sample; this score can be interpreted as the 'normal' or 'average' level of academic self-esteem. This measure has separate norms for boys and girls, acknowledging

Exhibit 3.5
Behavioral Academic Self-Esteem (BASE) Standardized Scores

		Grade 1			Grade 2			Grade 3		
		Pretest	Post-test	Gain	Pretest	Post-test	Gain	Pretest	Post-test	Gain
Boys			n=116			n=103			n=65	
	Mean	90	95	5*	96	95	-1	94	95	7***
	Standard Error	3	1	3	3	3	1	5	3	2
Girls			n=76			n=80			n=74	
	Mean	103	106	3*	103	101	-2	101	103	2
	Standard Error	4	5	2	3	4	3	4	2	3

*p=.05, **p=.001

Source: BASE completed by Classroom Teachers.

that expected behaviors are different depending upon gender. For this reason, the findings are presented separately for boys and girls.

The patterns of results on the BASE differ for boys and girls across all grades. At pretest, on average, girls in all grades scored in the average or expected range for their grade level. However, boys scored slightly below average at each grade. At post-test, girls in first grade made statistically significant, but substantively small gains in self-esteem, while girls in the second and third grades showed no meaningful change. In contrast, boys in the first and third grade achieved significantly higher post-test scores than at pretest, making gains of 5 to 7 points.

Social Skills Rating System (SSRS)

At pretest and post-test, teachers rated students on the following 10 items that make up the cooperation subscale of the SSRS:

- Uses free time in an acceptable way.
- Finishes class assignments within time limits.
- Uses time appropriately while waiting for help.
- Produces correct schoolwork.
- Follows your directions.
- Puts work materials or school property away.
- Ignores peer distractions when doing class work.
- Keeps desk clean and neat without being reminded.
- Attends to your instructions.
- Easily makes transition from one classroom activity to another.

As with the BASE, the SSRS has a separate set of norms for boys and girls. Student performance on the cooperation subscale was analyzed using two types of scores: 1) raw scores—a summed score across the 10 items in the subscale, each of which could be scored at 0,1 or 2, for a total maximum score of 20; and 2) behavior levels (constructed by the developer of the SSRS) that convert students' raw scores into three classifications: average, below average, or above average skills.[16]

Exhibit 3.6 presents the results of pretest and post-test ratings by gender and grade level. There are not consistent and substantively meaningful changes in students' performance; however, there are several observations:

[16] The SSRS does not provide standardized scores for the subscales, although the responses of the standardization sample are used normatively to classify subscale total raw scores into average, above, or below average.

- The majority of students, regardless of gender or grade, were classified as having average or above average skills on the cooperation subscale at pretest (a range of 54-75 percent for boys, 75-92 percent for girls).

- On average, based on the raw scores, boys scored lower than girls at all three grades and at both pretest and post-test.

Exhibit 3.6
SSRS: Scores on the Cooperation Subscale

	Boys		Girls	
	Pretest	**Post-test**	**Pretest**	**Post-test**
Grade 1	(n=113)		(n=73)	
Mean (standard error)	11.1 (1.0)	12.3 (0.8)	15.5 (1.2)	16.5* (1.0)
Behavior Levels				
Above Average	8%	4%	22%	33%
Average	52	67	63	55
Below Average	40	29	15	12
Grade 2	(n=95)		(n=75)	
Mean (standard error)	11.2 (1.2)	11.5 (0.7)	16.1 (0.7)	15.8 (0.7)
Behavior Levels				
Above Average	10%	4%	24%	16%
Average	44	63	68	64
Below Average	46	33	8	20
Grade 3	(n=63)		(n=73)	
Mean (standard error)	11.6 (1.1)	13.2** (1.1)	15.0 (0.9)	15.6 (0.7)
Behavior Levels				
Above Average	11%	11%	10%	13%
Average	64	75	65	71
Below Average	25	14	25	16

*p<.05, **p<.001

Source: SSRS completed by Classroom Teachers.

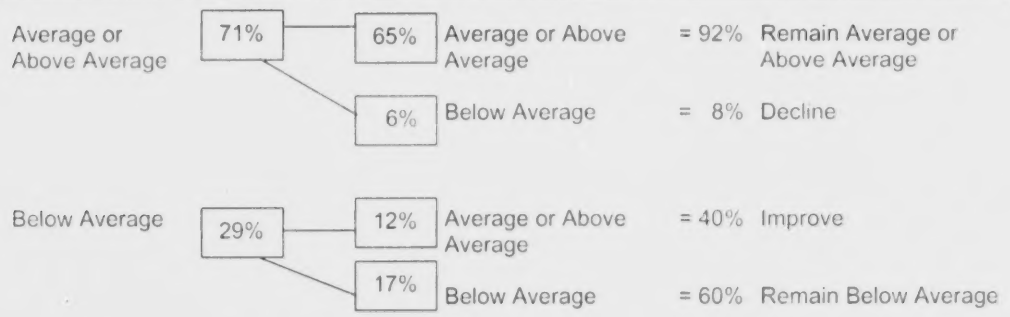
- Third grade boys made small but statistically significant gains in their ratings. Only 14 percent are rated as having below average skills at post-test compared to 25 percent at pretest.

- First grade girls also made small but statistically significant gains in their ratings. The distribution of ratings using the behavior levels indicates that these gains were, for the most part, the result of an increase in the proportion of girls classified as having above average skills (22 percent at pretest versus 33 percent at post-test).

Another way to characterize change from pretest to post-test on the cooperation subscale is to use the behavior levels to identify the proportion of students who improved from below average to average or above average. As Exhibit 3.7 shows, 71 percent of the students obtained average or above average ratings at pretest, indicating that most of these students were already displaying the appropriate classroom behaviors. It is noteworthy, however, that

40 percent of the students whose behavior levels were rated as below average at pretest improved their skills to average or above average at post-test.

Exhibit 3.7
Changes in Students' Behavior Levels on SSRS from Pretest to Post-test



Source: SSRS completed by classroom teachers.

Summary

This study included an individually administered test of student reading ability and teacher ratings of reading performance and classroom behavior. On the standardized reading test, the Woodcock-Johnson, students involved in the AmeriCorps tutoring program made gains in reading skills and reading comprehension at all grade levels. These gains were large enough to be statistically significant and also represent meaningful changes in reading performance.

Teachers indicated that the majority of students improved in reading and other classroom behaviors over the course of year in the AmeriCorps tutoring program. However, these global teacher ratings did not necessarily correspond to students' actual scores on the Woodcock-Johnson.

Two standardized teacher ratings, the SSRS and the BASE, assessed students' self-esteem and cooperation in the classroom. In contrast to the changes observed in student reading performance, there were no such corresponding changes in students' classroom behaviors. Girls displayed appropriate or typical behaviors at pretest on both the SSRS and the BASE. Thus, one would not expect substantive gains at post-test. Boys, on the other hand, were rated by their teachers as displaying somewhat lower than average classroom behaviors at pretest. On average, only the third grade boys improved their classroom behaviors on both the BASE and the SSRS at post-test.

Chapter 4
Factors Affecting Student Reading Achievement

Introduction

The previous chapter reported gains in students' reading achievement overall and by student characteristics. This chapter focuses on the nine effective practices described in Chapter 2 and examines the relationship of each of these program elements, individually and in combination, to students' gains in reading skills and reading comprehension.

It is important to point out that the program-level information was gathered primarily from program directors' reports. Tutors provided information on only a few items relevant to effective practices. Thus, this information addresses what was *intended* to occur in tutoring programs.

Effective Tutoring Practices

In Chapter 2 we identified the following group of effective tutoring practices:

- Intensity of tutoring:
  - Tutoring sessions occur at least three times a week
  - Tutoring sessions total at least 1.5 hours per week
  - Most of the tutoring is conducted one-to-one with students

- Administration/Implementation:
  - Tutors use a formal curriculum model in their sessions
  - Tutors coordinate their activities with classroom reading instruction
  - Tutors meet regularly with the school's reading specialist
  - Programs evaluate the effectiveness of their tutoring activities
  - Program is at least moderately or fully implemented

- Tutor training:
  - Tutors receive training both prior to and during the course of tutoring

Below we describe the extent to which each of these nine effective practices was associated with gains in students' reading achievement.[17]

[17] Some of the programs did not supply all the information requested. Rather than exclude such programs from analyses, we replaced missing scores with the sample's average score. This strategy allowed us to include the maximum number of programs available and increase the statistical power necessary to detect differences. Our final analyses are based on 64 programs and their students.

Relationship of Effective Practices to Gains in Reading Skill

To investigate the relationship between programs' use of effective tutoring practices and students' reading achievement, we conducted multiple regression analysis using a technique known as Hierarchical Linear Modeling (HLM).[18] This technique is used when the data to be analyzed are at two levels; for example, in this study, information was collected about programs and students. Developing models with this technique allows us to estimate the effects of variables at both the student and program levels simultaneously (see Appendix C for more details).

Of the nine effective practices, four were significantly related to gains in students' reading skills:

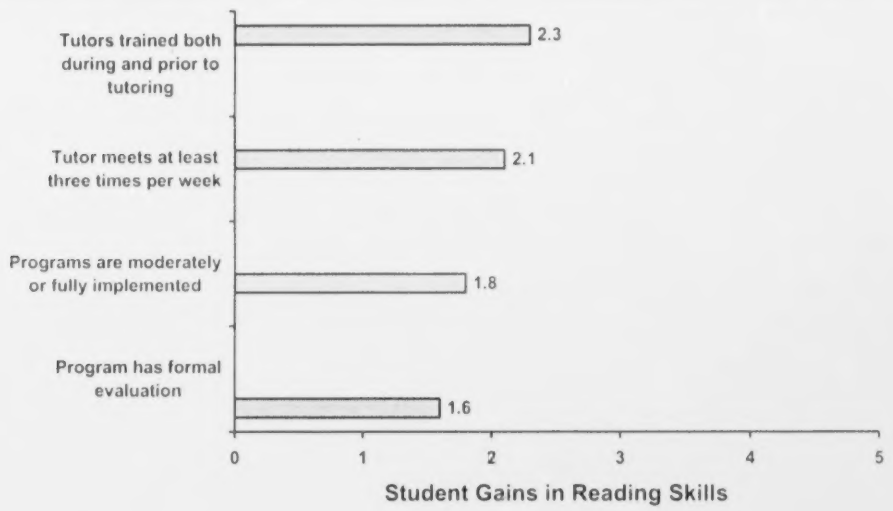
Tutors receive training both prior to and during the course of tutoring
Tutoring sessions occur at least three times a week
Program is at least moderately or fully implemented
Programs evaluate the effectiveness of their tutoring activities

For each of these effective practices, students showed significantly higher gains in reading skills than students in programs without these practices (Exhibit 4.1). For example, students who met with their tutors at least three times per week had increases between pretest and post-test of 2.1 points *more than their peers in programs that met less frequently*; this difference is statistically significant ($p<.05$).

The findings that individually, these four effective practices were related to student gains on the reading skills subtest raises the question: Do students in programs implementing only one of these effective practices make the same gains as students in programs with two, three or all four of these effective practices? Approximately 28 percent of AmeriCorps programs reported all four effective practices, 43 percent reported three, 13 percent reported two, 9 percent reported only one, and 6 percent did not report any of these program-level components. Thus, the majority of programs (71 percent) included at least three of these effective practices, and very few programs did not engage in any of these key components.

[18] Bryk, A.S., and Raudenbush, S.W. (1992). *Hierarchical Linear Models: Applications and Data Analysis Methods*. London: Sage Publications.

Exhibit 4.1
Additional Gains in Student Reading Skills Associated with Effective Practices[a]



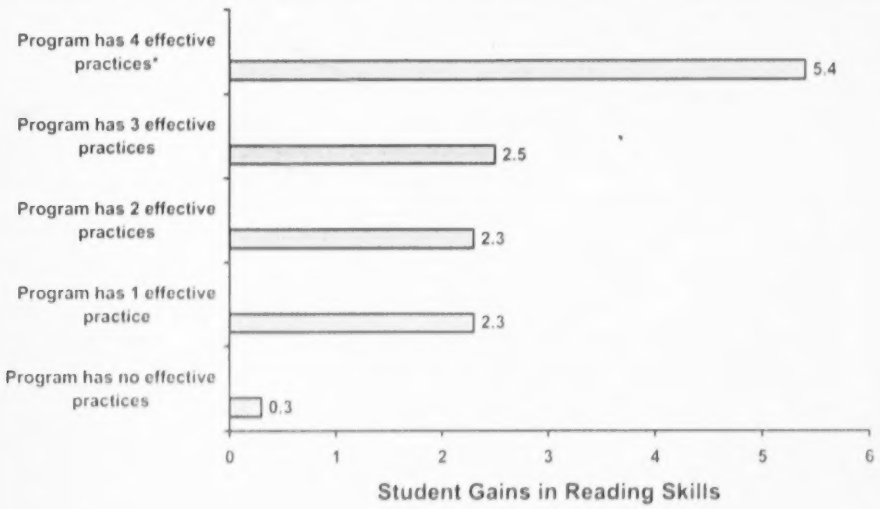
[a] Only those effective practices associated with statistically significant ($p < .05$) gains are displayed.

Source: Woodcock-Johnson Psycho Education Battery-Revised for student-level gains; Program Director Questionnaire and Tutor Logs for program-level information.

To further investigate the relationship between these effective practices and gains in reading skills, we examined whether students in programs implementing all four practices exhibited greater gains than students in programs that reported three or fewer elements. As Exhibit 4.2 shows, students in programs with all four effective practices gained an average of 5.4 points between pretest and post-test, which is significantly more than students in programs with three practices, who gained only 2.5 points; students in programs that reported none of the four effective practices gained less than one point on the reading test. This suggests that while each of the four practices are important individually with respect to students' gains in reading skill, students in programs with all four effective practices are likely to show the greatest gains in reading skills compared to their counterparts in programs that had three or fewer of these tutoring practices.

Students in programs with three effective practices showed greater gains than did those in programs that did not report any of the program components. There were no statistically significant differences in reading skill gains between students in programs with three versus two, two versus one, one versus none of the effective practices, or any other combinations.

Exhibit 4.2
The Relationship Between Multiple Effective Practices and Student Gains in Reading Skills



* Programs with four effective practices are associated with significantly higher gains scores than all other groups ($p < .05$).

Source: Woodcock-Johnson Psycho Education Battery-Revised for student-level gains; Program Director Questionnaire and Tutor Logs for program-level information.

Relationship of Effective Practices to Gains in Reading Comprehension

We also examined the relationship between each of the nine effective practices and gains in reading comprehension. Only one of the program-level components was associated with significant student gains—coordination with classroom reading instruction—but in the opposite direction than expected. Specifically, students in programs that reported coordinating their tutoring practices with classroom reading instruction were less likely to show gains in reading comprehension than students in programs whose tutors did not engage in coordinating activities. This unexpected finding may suggest that tutors who did not coordinate with classroom instruction may be qualitatively different from those tutors that did engage in coordination. For example, it is possible that tutors who do not engage in coordinating activities have more experience and thus may not seek external input from classroom teachers. It may be having more experience, in this hypothetical example, not the lack of coordination per se, that is responsible for the greater gains in reading comprehension. Unfortunately, we do not have the information necessary to test this hypothesis empirically.

As only one program-level component was significant, we did not examine the pattern of effective practices in relation to students' reading comprehension.

Summary

Overall, the relationship between effective tutoring practices and student reading gains is different for the two reading scores. With respect to reading skills, four effective practices were each significantly associated with gains—programs that met at least three times a week, programs that reached fuller implementation, programs that conducted formal evaluations, and tutors who received prior and ongoing training. Students in programs with all four practices exhibited greater gains in reading skills than students in programs that reported three or fewer components. In addition, students in programs with three of the effective practices showed greater gains than did those in programs with none of the key practices. No statistically significant differences were detected among programs that reported three versus two, two versus one, or one versus none of these program elements. This suggests that there may be a "threshold" effect, where students who experience at least three effective practices are more likely to show reading skill gains than are those in programs that have less than three of these practices.

In terms of reading comprehension, programs where tutors did not coordinate their tutoring practices with classroom instruction were associated with larger student gains. This relationship was counterintuitive and merits additional exploration and replication. No other program-level components were significantly related to gains in reading comprehension. Further summary and implications of these findings are reported in Chapter 5.

Chapter 5
Summary and Conclusions

The evaluation of AmeriCorps' tutoring program was conducted at a time when there is considerable public attention on the issue of our students' reading achievement, especially those in primary grades. Several significant federal initiatives seek to improve reading instruction and reading achievement, and numerous state and local efforts do as well. Further, tutoring activities are an integral part of many of these initiatives. Given this context, the findings from this study become even more important.

Reading Achievement

The results from this study indicate that students participating in AmeriCorps tutoring programs improved their reading performance from pretest to post-test *more than the gain expected for the typical child at their grade level*. This finding holds for students at all grade levels tested. Reading comprehension and reading skills were below grade-level at pretest; by year-end, students closed the gap and were reading at or near grade-level expectations. Not only are gains statistically significant, they are also large enough to signify real improvement in students' reading abilities. In addition, the magnitude of the reading gains was the same for students of different ethnic/racial backgrounds; there were no statistically significant differences in the reading score gains of White and non-White students.

Classroom Behavior

The study examined the effects of participation in the tutoring program on changes in students' classroom behaviors. On two classroom behavior measures, girls displayed appropriate or typical behaviors at pretest, thus minimizing the likelihood of observing a positive change at post-test. In general, teachers rated boys as displaying somewhat lower than average classroom behaviors at pretest. Only the third grade boys improved their classroom behaviors on both the BASE and the SSRS at post-test.

Program staff hypothesized that students would improve their classroom behavior as a result of receiving tutoring services, because the special attention students received through tutoring would have positive effects on children's sense of worth as well as their interest in learning. Because the majority of students in our sample were rated as in the normal or expected range at pretest, however, our results do not provide evidence to support this hypothesis.

Effective Tutoring Practices

Four program-level effective tutoring practices were related (both individually and in combination) to student gains in reading skills:

Tutoring sessions occur at least three times a week
Tutors receive training both prior to and during the course of tutoring
Program is at least moderately or fully implemented
Programs evaluate the effectiveness of their tutoring activities

Students participating in programs implementing all four effective practices are likely to show the greatest gains in reading skills compared to their counterparts in programs that had three or less of these tutoring practices. The fact that effective tutoring practices were related to student reading skill gains increases our confidence that these gains can be attributed to the AmeriCorps program, rather than other program factors that might also explain the differences in student reading outcomes.

It is interesting to note that even though students made significant gains in reading comprehensive, these gains were not related to program-level effective practices. Instruction for struggling readers often focuses on the mechanics of reading, which is what the reading skills subtest of the Woodcock-Johnson measures. These skills are the precursors to reading comprehension. These results from the AmeriCorp evaluation suggest that effective practices, such as the frequency of tutoring sessions, may have greater impact on students' reading mechanics than on reading comprehension.

APPENDIX A

SAMPLE SELECTION AND WEIGHTING PROCEDURES

APPENDIX A

This appendix has two sections; first we discuss the sampling procedures, then we present the techniques used to construct program- and student-level weights in order to generalize the findings to the population of AmeriCorps tutoring programs and participating first, second and third grade students.

Sample Selection

In order to produce estimates of the AmeriCorps tutoring program nationwide, a multi-stage sampling design was implemented that selected programs, schools and students to participate in the study. After completing this process, our effective sample included 68 programs, 96 sites (76 schools and 20 after-school programs), and 869 children. Since it was representative, this sample allowed us to generalize the findings to the entire population of AmeriCorps programs and tutored students through the use of sampling weights at the program and student level.

Each stage in the sampling procedure is described below.

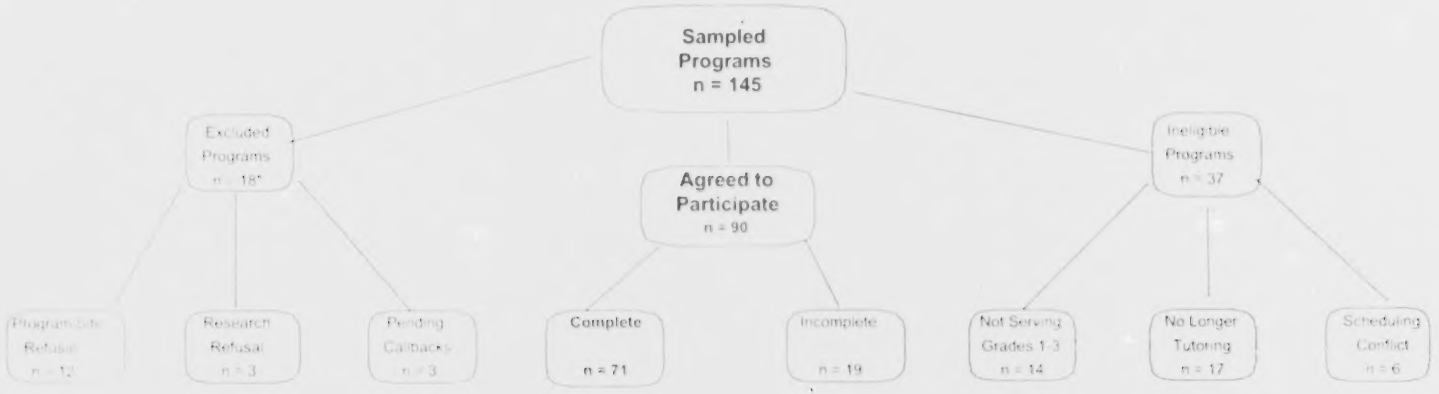
Stage 1: The Sample of Tutoring Programs

Using information provided by the Corporation, we identified 271 AmeriCorps programs that provided tutoring in reading to students in some combination of grades one, two and three. Exhibit A1 summarizes the recruitment of programs into the study.

A nationally representative sample of 145 programs was selected. We stratified the sample by geographic region and size of tutoring program (i.e., number of students tutored). During the recruitment of programs, we learned that 37 programs were ineligible to be in the study and an additional 18 either refused or could never be contacted. The two primary reasons for ineligibility at this stage centered on programmatic changes made between the 1998-1999 school year in which the *Descriptive Study* was conducted and the 1999-2000 school year in which the data were collected for the *AmeriCorps Tutoring Outcomes Study*. We found that either the program was no longer conducting reading tutoring at all or that the program no longer supported tutoring in grades 1 through 3. This left us with a sample of 90 tutoring programs.[1]

[1] Tests were conducted to assess the representativeness of the program sample. Overall, there were no significant differences between our program sample and the national population of programs with one exception, there were slightly more small programs and slightly fewer medium large programs in the sample studied.

Exhibit A1
Summary of Recruiting Status
Sampled Programs for the Tutoring Outcomes Study


Sampled Programs n = 145
Excluded Programs n = 18*
Agreed to Participate n = 90
Ineligible Programs n = 37
Program Site Refusal n = 12
Research Refusal n = 3
Pending Callbacks n = 3
Complete n = 71
Incomplete n = 19
Not Serving Grades 1-3 n = 14
No Longer Tutoring n = 17
Scheduling Conflict n = 6

Other details:

1. Nationally representative sample selected from 21 Primary Sampling Units.
2. Current program level response rate = 66%. (Completes/Total sample - Ineligibles)
3. Programs that are labeled "incomplete" never provided signed consent forms or were not able to be scheduled for testing by January 14th.
4. Of the programs that agreed to participate, 44 (49%) are designated "high quality" programs.
5. Current program level refusal rate = 11%. (Refusals/Total sample - Ineligibles)
6. * 12 of the excluded programs are refusals.
   * 3 of the excluded programs are refusal to conduct research in schools.
   * 3 of the excluded programs are final non-contact.

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Stage 2: The Sample of Schools

Our sample of 90 AmeriCorps programs provided tutoring services in 459 sites (363 schools, 96 after-school programs). From this population, we selected a sample of 164 sites, 137 schools and 27 after-school programs. Of these, 128 sites initially agreed to participate in the study. However, we were not able to collect data at 35 locations (representing 22 of the original 90 programs), because the schools and after-school sites were unable to obtain sufficient parental consents in time to be included in the baseline data collection. Thus, our effective sample at the school/site level consists of 93 sites (73 schools and 20 after-school programs) representing 68 AmeriCorps tutoring programs.[2] Exhibit A2 summarizes the participating schools and after-school programs.

Stage 3: Selection of students

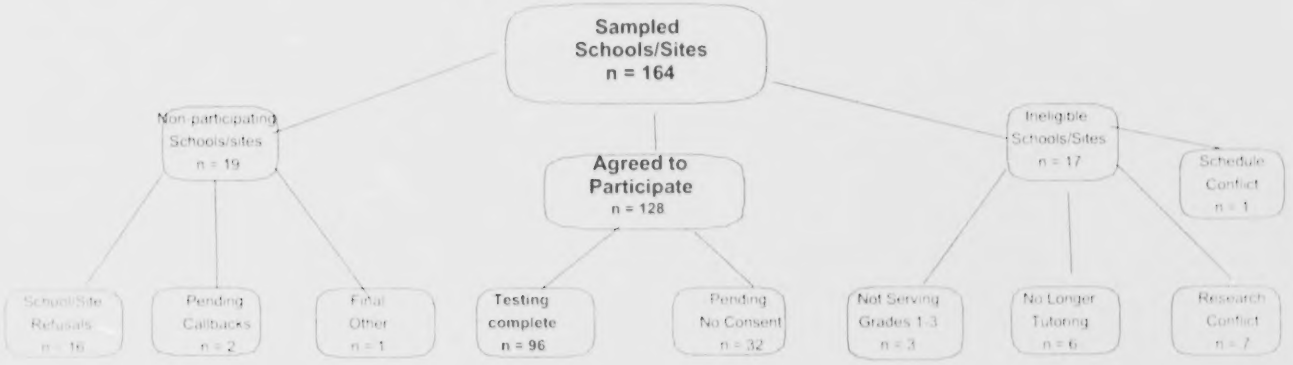
Determining Sample Size. Before selecting a representative sample of participating students, we had to determine the appropriate sample size needed to address the research questions. Several factors were considered as part of this decision. First, we determined the power we wanted to have to detect differences from pretest to post-test. Power is defined as the ability to detect a difference on some measure between two groups, when there is, in fact, such a real difference. Consistent with the standards in the field, we wanted to have at least 80 percent power. In addition, we set the size of the sample to allow for high precision; our criterion was the ability to detect a five point pretest to post-test difference at the 95 percent confidence level.

Two other factors were involved in determining the necessary sample size. One involved the design effect. Because the sample was a clustered rather than a simple random sample, we needed to increase the sample size in order to adjust for a reduction in variation due to the effects of clustering. Since we could not know the true design effect until all data were collected, we took a conservative approach by estimating a large design effect of 2.5 although we expected the true design effect to be somewhat less (perhaps 2.0). Finally, it was important to allow for some attrition from the sample from pretest to post-test. Interestingly, while we estimated an attrition rate of 20 percent, our final attrition rate was only 8 percent. (Most of the students whom we were unable to test at the end of the school year had moved and transferred to other elementary schools, often located out of the area.)

Selection of Students. To recruit the study sample from the selected schools and after-school programs, consent forms were sent home to parents of all students participating in the tutoring program. The original methodology called for obtaining a complete set of permissions from each site and then randomly selecting the student sample. However, since only a subset of students returned signed consent forms, we could only sample from that subset. In schools/sites where we had more students with signed consent forms than called

[2] While 71 AmeriCorps programs participated in the data collection, we were able to obtain a complete set of data for only 68 of the programs, which was used for the various analyses.

Exhibit A2
Summary of Recruiting Status
Schools/Sites


Sampled Schools/Sites n = 164
Non-participating Schools/sites n = 19
Agreed to Participate n = 128
Ineligible Schools/Sites n = 17
Schedule Conflict n = 1
School/Site Refusals n = 16
Pending Callbacks n = 2
Final Other n = 1
Testing complete n = 96
Pending No Consent n = 32
Not Serving Grades 1-3 n = 3
No Longer Tutoring n = 6
Research Conflict n = 7

Other details:

1. Nationally representative sample selected from 21 Primary Sampling Units
2. Current school/site response rate = 65% (Completes/Total sample - Ineligibles)
3. 32 or 25% of the 128 consenting schools never completed parent consent forms and scheduling
4. Current site level refusal rate = 11% (Refusals/Total sample - Ineligibles)

for by the sampling plan, a random selection of students was made.[3] In sites where there were fewer students than necessary for the sampling plan, all students with signed consent forms were selected. Finally, only those students with data at both pretest and post-test were included in our analyses. Exhibit A3 displays counts for the population of students participating and our study sample for each grade.

Exhibit A3:
Population and Sample Counts of Tutored Students

Grade	Population of Students across all Tutoring Programs	Students in Sample
First	31,584	294
Second	34,647	292
Third	35,734	283
Total	101,965	869

The fact that we selected our sample from those students with consent forms raised the issue of whether the students not returning consent forms (i.e., the non-respondents) differed in some way from students for whom we had forms. Unfortunately, since we had no information about the non-respondents, we could not conduct analyses comparing them to the study sample.

Below, we describe the procedures used to construct the sampling weights needed to compute national estimates of program effects.

Sampling Weights

To generate national, population-based estimates (either descriptive or impact), each responding program and student in the sample received a sampling weight. The final sampling weight combined the basic sampling weight, which reflects the probability of selection, and an adjustment for non-responding programs, schools/sites, and students. In this section, we describe the procedure for computing these sampling weights. The construction of weights was directly linked to the sampling design used to select programs, sites and students for participation in the study. Hence, we begin with a brief description of the sampling methods that have been used.

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[3] As a consequence of this over-sampling, we have data on more students than called for in the original sampling plan. These data were not used in computing the estimates of program effects. However, they were used to strengthen the relational analyses that examine relationships among program characteristics and student outcomes.

Selection of the Sample

A sample of students in each grade was selected using a four-stage sampling design.

- At the first stage, the AmeriCorps tutoring programs were grouped into primary sampling units (PSUs) or clusters within each census division. A sample of PSUs was selected within each of these census divisions with probability proportional to the number of participating students in each PSU.
- At the second stage, a systematic sample of programs was selected from each selected PSU.
- At the third stage, a systematic sample of schools/sites was selected from each selected program.
- At the last stage, a systematic sample of students was selected from each of the three grades.

Construction of the sample weights

The basic sampling weight for a student selected in the sample reflects the probability of selection of a PSU, the probability of selection of a program within a selected PSU, the probability of selection of a school within a selected program and finally the probability of selection of a student within a selected school.

Let S_{ij} denote the number of students in the j th PSU in the i th census division. Let M_i denote the number of PSUs in the i th census division. Let m_i denote the number of PSUs selected in the sample in the i th census division. The probability of selecting the j th PSU in the i th census division is

$$\pi_{ij} = m_i \frac{s_{ij}}{s_i}$$

where $s_i = \sum_{j=1}^{M} s_{ij}$ is the total number of students in the i th census division. The weight to be attached to the j th PSU is $w_{ijA} = \frac{1}{\pi_{ij}}$. Let N_{ij} denote the number of programs in the j th PSU in the i th census division. Let n_{ij} be the number of programs selected in the sample from the j th PSU in the i th census division. The conditional weight to be attached to a selected program in the j th PSU in the i th census division is $\frac{N_{ij}}{n_{ij}}$. This weight will be adjusted for program nonresponse. If out of n_{ij} programs, only n_{ij}^{*} programs respond and $n_{ij}^{!}$ are eligible nonrespondents, then the nonresponse adjustment is $\frac{n_{ij}^{*} + n_{ij}^{!}}{n_{ij}^{*}}$.

The overall ***program weight*** for a respondent program "k" in the j th PSU in the i th census division is given by

$$W_{ijk} = \frac{1}{\pi_{ij}} \frac{N_{ij}}{n_{ij}} \frac{n_{ij}^{\cdot} + n_{ij}^{1}}{N_{ij}^{\cdot}}$$

All national estimates of the characteristics of AmeriCorps tutoring programs were obtained using these weights. For example, let p denote the estimated proportion of programs that have a certain characteristic. Then

$$p = \frac{\sum_{i=1}^{q} \sum_{j=1}^{m} \sum_{k=1}^{n_i} W_{ijk} \; Y_{ijk}}{\sum_{i=1}^{q} \sum_{j=1}^{m} \sum_{k=1}^{n} W_{ijk}}$$

gives the estimated proportion.

Let the number of schools in the population in the k th program in the j th PSU in the i th census division be H_{ijk}. Let the number of schools in the sample be h_{ijk}. The conditional weight for a selected school in the k th program is given by $\frac{H_{ijk}}{h_{ijk}}$. If we assume that out of h_{ijk} schools, h_{ijk}^{*} schools respond, and h_{ijk}^{1} eligible schools do not respond, then the nonresponse adjustment is given by $A_{ijk} \frac{h_{ijk}^{*} + h_{ijk}^{1}}{h_{ijk}^{*}}$. The non-response-adjusted conditional school weight is $A_{ijk} \frac{H_{ijk}}{h_{ijk}}$. The ***overall school weight*** is given by the overall program weight multiplied by the nonresponse adjusted school weight.

For determining student weights, we consider each grade as a separate stratum, since samples were selected independently from each grade. Let the number of students in grade 1 in the l th school in the kth program, j th PSU and the i th census division be S_{ijkl}. Let the number in the sample be s_{ijkl}. The conditional basic student sampling weight is $\frac{S_{ijkl}}{s_{ijkl}}$.

The basic student weight was adjusted for nonresponse using the same approach described in the construction of the school weights. The ***overall student weight*** is the overall school weight multiplied by the nonresponse adjusted conditional student weight.

In summary, the program and student weights will be used to compute the estimates of population parameters relating to AmeriCorps' tutoring programs and the student participants in these programs.

APPENDIX B

STUDY MEASURES

APPENDIX B

This appendix describes the measures used in the study along with the rationale used in the selection process.

The Measurement Battery

The measurement battery used in the study collected information in three broad areas: 1) student outcomes; 2) characteristics of the tutoring programs and 3) background information about tutors and students. Each measure is described below. Copies of the instruments developed specifically for this evaluation are included at the end of the Appendix.

Student Outcomes

To address the research questions, two kinds of student behaviors were measured: 1) reading proficiency; and 2) classroom behavior. Each measure had to be appropriate for use with students in grades 1, 2 and 3. Each of the outcome measures is summarized below.

Reading skills. One of the central literacy services provided by AmeriCorps members is the direct tutoring of reading skills to children at risk of becoming poor readers. The goal of this activity is to improve children's reading skills. Therefore, one of the primary outcome measures to be selected was a standardized measure of reading ability. The selected test had to: a) measure several reading subskills; b) have an adequate norming sample; c) have acceptable psychometric properties (e.g., reliability and validity); d) be easy to administer; and e) be well-accepted in the field (i.e., used in comparable studies of at-risk students).

We selected the *Woodcock-Johnson Psycho-Educational Battery--Revised* (WJ-R), a group of subtests, many of which address the basic skills for reading.[1] The WJ-R is an individually administered test battery designed to assess the intellectual and academic development of individuals from preschool through adulthood. This recent version includes a norming group for which data were collected from 1986 through 1988. There are 41 subtests that may be administered separately or in combination with other subtests; each subtest takes approximately five minutes to complete. Reliabilities for the subtests are generally above .90, and the tests have demonstrated acceptable concurrent and construct validity.

A selected group of six subtests was administered to the study sample:

- **reading skills** using the Letter-Word Identification and Word Attack subtests;
- **reading comprehension** using the Passage Comprehension and Reading Vocabulary subtests; and

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[1] Woodcock, R.W., and Johnson, M.B. (1989, 1990). *Woodcock-Johnson Psycho-Educational Battery-Revised*. Itasca, IL: Riverside.

- **phonological awareness** using the Incomplete Words and Sound Blending subtests.

Each subtest is briefly described below.

- Letter-Word Identification: The first five items involve symbolic learning, or the ability to match a rebus (pictographic representation of a word) with an actual picture of the object. The remaining items measure the participant's reading identification skills in identifying isolated letters and words. In this test it is not necessary that the participant know the meaning of any word correctly identified. The items become more difficult as they present words that appear less and less frequently in written English.

    - Example: Item 13 is the letter "j". The examiner points to it and says, "What is the name of this letter?" Item 14 is the word "to." The examiner points to it and says, "What is this word?"

- Word Attack: This subtest measures a participant's skill in applying phonic and structural analysis skills to the pronunciation of unfamiliar printed words. The participant is asked to read aloud letter combinations that are linguistically logical in English (or Spanish) but that form nonsense words or low-frequency words.

    - Example: Items 1-3 are the nonsense words "tiff," "nan," and "rox." After having explained to the child that some of these words are not real words, the examiner asks the child to "Read each of these words to me."

- Passage Comprehension: The first four items are presented in a multiple-choice format requiring the participant to point to the picture represented by a phrase. The remaining items measure the participant's skill in reading a short passage and identifying a missing key word. The task requires the subjects to state a word that would be appropriate in the context of the passage. The subject must exercise a variety of comprehension and vocabulary skills.

    - Example: Item 7 shows a blue book resting on a yellow chair and a red ball resting on a green box. The sentence next to the illustration reads, "Something is on the chair. It is a _____." The child is instructed to "Read this to yourself and tell me one word that goes in the blank space." The correct response would be "book."

- Reading Vocabulary: This subtest measures the participant's skill in reading words and supplying appropriate meanings. In Part A: Synonyms, the participant must state a word similar in meaning to the word presented. In Part B: Antonyms, the participant must state a word that is opposite in meaning to the word presented. Only one-word responses are acceptable.

- Example: Item 2 of the Synonyms is the word "puppy." The examiner says, "Read each of these words out loud and tell me another word that means the same." The correct responses for Item 2 would be "dog," "doggy," "pup." The instructions for the Antonyms are similar except the child is told to "tell me another word that means the opposite." Item 1 is the word "on." Correct responses would be "off," "under," while incorrect responses would be "yes," "in" or "out."

- Incomplete Words: This is a tape-recorded test that measures auditory closure. After hearing a recorded word that has one or more phonemes missing, the subject identifies the complete word. This test primarily measures auditory processing.

    - Example: The child hears Item 2 as "sti_er," repeated once. The examiner says to the child, "Tell me the whole word that she is trying to say." The correct response is "sticker."

- Sound Blending: This test measures the ability to integrate and then say whole words after hearing parts (syllables and/or phonemes) of the words. An audio tape is used to present word parts in their proper order for each item. This test primarily measures auditory processing.

    - Example: Item 15 is "fi-sh". The child is asked to tell the examiner what the word is (fish) after hearing the two phonemes of the word.

Preliminary analyses of the scores obtained on the last two subtests, incomplete words and sound blending, indicated that they were not reliable measures related to students' reading skill levels. Therefore, we excluded them from any subsequent analyses.

Classroom behaviors. For measures of classroom behavior, we selected ones that: 1) use teacher ratings (rather than parent or child); 2) focus on adaptive school behaviors such as cooperation, ability to take turns, rather than manifestations of clinical problems; and 3) are normed using a standardization sample. Based on these criteria, we selected three measures: 1) the Behavioral Academic Self-Esteem rating scale (BASE);[2] 2) the cooperation subscale from the Social Skills Rating System (SSRS);[3] and 3) several additional questions for the classroom teacher about students' reading behaviors in the classroom.

BASE. The *BASE* measures children's academic self-esteem by using direct observations of their classroom behaviors. Teachers rate their students on 16 items that capture the school behaviors of interest to the study. The measure has adequate technical properties: 1) measures of reliability (ranging from .36 to .75); 2) predictive validity (correlation of

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Coopersmith, S., and Gilberts, R. (1982). *BASE: Behavioral Academic Self-Esteem: A Rating Scale*. Palo Alto: Consulting Psychologists Press.

Gresham, F. M., and Elliott, S.N. (1990). *Social Skills Rating System*. Circle Press, MN: American Guidance Service.

.50 with the composite score on the Comprehensive Test of Basic Skills); and 3) adequate norming sample of 4,000 children grades K-8.

- Example: Item 1 is "This child is willing to undertake new tasks." Item 14 is "This child refers to himself or herself in generally positive terms." Teachers rate the frequency of the behavior as "Never", "Seldom," "Sometimes," "Usually," or "Always."

SSRS. The *SSRS* is designed for teachers to rate children in the areas of Academic Competence, Problem Behaviors, and Social Skills. The SSRS has been widely used and also has been nationally normed with a sample of 2,400 children in grades K-6. We used one part of the Social Skills section of the test, the 10 items comprising the Cooperation subscale. This information provided an additional measure of students' school behavior, cooperation in a school setting. The Cooperation subscale has strong reliability properties: 1) internal consistency, coefficient alpha=.92; 2) test-retest reliability r=.88 and 3) interrater reliability, r=.54.

- Example: Item 15 is "Uses time appropriately while waiting for help." Item 29 is "Easily makes transition from one classroom activity to another." Teachers rate the frequency of the behavior as "Never", "Sometimes," or "Very often."

Teacher perceptions of students' reading behaviors. *We developed a questionnaire specifically for this study that asked teachers to make judgments about change in comprehension proficiency, changes in mechanics proficiency, time on task while engaged in reading activities, student interest in reading, and interest in school in general. (See measure at the end of the appendix.)*

- Example: Teachers are asked to circle one response for each of a number of items. Item 2a reads, "Since participating in the tutoring program, I think my student is more interested in reading." Item 2b is "Since participating in the tutoring program, I think my student is more interested in school." Responses are "A lot," "Some," "A little," "Not at all" and "Don't know".

Characteristics of the Tutoring Programs

We collected two types of information about the literacy services: 1) program-level information about the operation and implementation of tutoring activities; and 2) student-level information about the intensity of the tutoring services they receive. Each type of information is described below.

Program-level information. The *Descriptive Survey* provided a basic set of information, *at the program-level*, on each literacy program in the study sample. These data were

available to use analytically in this evaluation. However, the information was collected in the spring of 1999 and described the program as implemented in the 1998-99 year. Thus, it was necessary for us to update our database on a subset of key items relating to the delivery of tutoring services in spring 2000 to ensure that we had data that reflected tutoring programs as implemented in the 1999-2000 year. (A copy of the Program Director Questionnaire appears at the end of the appendix.)

Student-level information. To assess the extent of implementation *at the student level*, we collected information from the AmeriCorps tutors about their tutoring experiences with students. Tutors completed a *Record of Reading Activities with Students* twice during the 1999-2000 school year. For two designated weeks, tutors provided information about 1) the amount of tutoring scheduled and actually received during a week; 2) the types of literacy activities that took place; and 3) their estimates of student interest, motivation and engagement in the literacy activities. (A copy of the Tutor Log appears at the end of the appendix.)

Background Information

We collected two kinds of background information: 1) demographic characteristics of the sample of students receiving tutoring services; and 2) demographic characteristics of the tutors.

Student characteristics. Field staff recorded students' gender at the same time that they administered the Woodcock-Johnson. Student ethnicity was provided by teachers as part of the SSRS/BASE instrument.

Tutor characteristics. We designed a Tutor Questionnaire specifically for this study that collected information from tutors about their: 1) age; 2) gender; 3) education level; 4) previous experience working in an educational setting; 5) previous experience with tutoring children; and 6) amount of training they have received from AmeriCorps and other sources. (See measure at the end of the appendix.)

Introduction to the *AmeriCorps Tutoring Outcomes Study*: Information for Teachers

The Corporation for National Service, the government agency that sponsors AmeriCorps programs, has contracted with Abt Associates Inc., a nationally recognized research firm with a long history of studies in education, to ***assess the impact of AmeriCorps literacy tutoring on the reading proficiency and classroom behavior of children.*** AmeriCorps literacy activities are one important way to respond to President Clinton=s *America Reads* initiative that calls on all Americans to help ensure that every child can read well and independently by the end of third grade. The *AmeriCorps Tutoring Outcomes Study* is designed to tell us about the effects on students of direct literacy tutoring through AmeriCorps programs.

In this study, we are following a group of students in first, second, and third grades who are receiving direct tutoring through AmeriCorps. The students will be followed for a year; at the end of the year, we will look at whether, over a single school year, students have improved on their reading skills or their classroom behavior. The students in this study are a ***nationally representative sample*** of students across the country who are receiving this tutoring, which means that what we learn from the sample of students can be assumed to tell us about all children nationwide who are receiving tutoring through AmeriCorps.

Your school has been selected at random to be part of this study and several of your students who are receiving reading tutoring from the AmeriCorps program have been selected to participate from the school. This means that we will collect information about student skills at the beginning and end of the school year. Data on students= reading proficiencies will come from a standardized measure administered individually to students. The AmeriCorps tutors will be providing information on the nature, content, and duration of their tutoring sessions. These data will be used to help explain differences in children=s growth in reading skills over the year.

The study also depends on information from teachers about students= classroom behavior. Information from the teachers about student=s classroom behaviors is a critical component for learning about the effects of the tutoring services. These data will come from two brief teacher ratings using standardized scales, that will also be collected twice during this school year. Parent permission has been obtained for all of the students in the study, which allows us to ask you for this student information. In the analyses and reporting, your name and the names of the students in the study will ***never*** be identified.

We are asking teachers to provide us with the ratings ***twice during this school year*** Bonce in the fall, and again in the spring**B**using the following three measures:

- Social Skills Rating System**®**: Cooperation Subscale (10 items);
- Behavioral Academic Self-Esteem Rating Scale BASE**®** (16 items); and
- Teacher Perceptions of Students= Reading Behaviors (5 items).

You may be providing information on only one student or on many. The names of the students who have been selected for the study will be provided to the tutors at the time you are asked to complete the ratings. These forms are very user-friendly and should take no more than 5 - 10 minutes to complete for each student. We are aware that we are placing an additional burden on busy teacher schedules. In recognition of this fact, Abt Associates Inc. will pay you $10.00 for each completed student packet of 2 forms. Thank you in advance for your cooperation.

Any questions about the study or how to fill out the form--please call ***Shana Cook toll-free at 1 - (888) 390-1214***

AmeriCorps Tutoring Outcomes Study
Instructions for Teachers

Please read the sheet titled **"Introduction to the *AmeriCorps Tutoring Outcomes Study*: Information for Teachers,"** before completing either of the two teacher ratings for each student in our study.

What you should receive from the AmeriCorps coordinators:

A list of students included in the study

"Information for Teachers" (1 page)

"Instructions for Teachers" (1 page)

Teacher Payment Information Form (1 page)

Teacher Rating Packets containing copies of the three ratings ***for each child***:

Social Skills Rating System: Cooperation Subscale (1 page, front and back)
Behavioral Academic Self Esteem Rating Scale, BASE (1 page, 3 sides)
Teacher Perceptions of Students' Reading Behaviors (1 page)

Please make sure that you have all of these materials before you begin. If you have any questions or are missing materials, please do not hesitate to ask the AmeriCorps coordinator.

What we need you to do:

Please complete the Teacher Rating Packet, containing the three forms, for each of your students on the study list. The forms should take no more than 5 – 10 minutes to complete for each student. When you have completed *all* forms for every study student, *please return all the forms and packets to the AmeriCorps coordinator as quickly as possible.*

1. **Teacher Instructions for the *Behavioral Academic Self Esteem Rating Scale, BASE***
   Complete one form of the *Behavioral Academic Self Esteem Rating Scale, BASE* for each student to be evaluated. Complete *the front and inside pages only* according to directions on the front page. The inside pages contain 16 items relating to the student's academic self-esteem. ***Please do not skip any items.*** You do not need to complete the back page.

2. **Instructions for the *Social Skills Rating System: Cooperation Subscale***
   You should complete ***one*** Social Skills Rating System: Cooperation Subscale, both ***front and back*** for each student to be evaluated. When you have entered the Student and Teacher Information, ***please turn the form over*** and complete rating scale of the student's classroom behavior found on the back of the page. ***Please do not skip any items.***

3. **Instructions for the *Teacher Perceptions of Students' Reading Behaviors***
   This is a simple one-page form to be filled out once for each student. ***Please do not skip any items.***

Please list the names and grades of all students for whom you have completed a packet on the Teacher Payment Information form so that we can accurately compensate you for your time in helping with our study.

SiteID#: _____

School Name: _____

Student Name: _____

Student ID: _____

Teacher Perceptions of Students' Reading Behaviors

1. In your opinion, as a result of the tutoring, how much has the student's time on task, when engaged in reading activities, changed. Would you say that student's time on task is... **(Circle one response)**

    1. Very Improved,
    2. Somewhat improved,
    3. The same i.e., no changes, or
    4. Worse than when the student started in tutoring.
    8. Don't Know

2. **Please circle one response for each item below.**

Since participating in the tutoring program, I think my student:...	A lot	Some	A little	Not at all	Don't Know
a. Is more interested in reading.	1	2	3	4	8
b. Is more interested in school.	1	2	3	4	8
c. Has improved his/her reading comprehension skills.	1	2	3	4	8
d. Has improved his/her reading mechanics skills (i.e., phonics, decoding, and vocabulary).	1	2	3	4	8

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Introduction to the *AmeriCorps Tutoring Outcomes Study*: Information for Tutors

As you already know, the Corporation for National Service has contracted with Abt Associates Inc., a nationally recognized research firm with a long history of studies in education, to ***assess the impact of AmeriCorps literacy tutoring on the reading proficiency and classroom behavior of children.*** AmeriCorps literacy activities are one important way to respond to President Clinton=s *America Reads* initiative that calls on all Americans to help ensure that every child can read well and independently by the end of third grade. The *AmeriCorps Tutoring Outcomes Study* is designed to tell us about the effects on students of direct literacy tutoring through AmeriCorps programs.

In this study, we are following a group of students in first, second, and third grades who are receiving direct tutoring through AmeriCorps. The students will be followed for one school year; at the end of the year, we will look at whether, over a single school year, students have improved on their reading skills or their classroom behavior. The students in this study are a ***nationally representative sample*** of students across the country who are receiving this tutoring, which means that what we learn from the sample of students can be assumed to tell us about all children nationwide who are receiving tutoring through AmeriCorps.

Your school has been selected at random to be part of this study along with a sample of the students who receive tutoring. We will collect information about these student's reading skills at the beginning and end of the school year. Data on students= reading proficiencies will come from a standardized measure administered individually to students in fall and spring; data on classroom behavior will come from teacher ratings using standardized scales, also collected twice during this school year.

The study also depends on information about <u>your</u> tutoring activities with your students. We need tutors to provide information on the nature, content, and duration of the tutoring sessions for the students they tutor who are participating in the study. These data will be used to help explain differences in children=s growth in reading skills over the year. Information about the tutoring activities with your students is critical to the study and you are the ideal source of this information. Parent permission has been obtained for all of the students in the study, which allows us to ask you for this student information. In the analyses and reporting, your name and the names of the students in the study will ***never*** be identified.

We are asking tutors to provide us with this information ***two times during this school year*** Bonce in the fall and again in the springBusing a form we have developed called the *Record of Reading Activities with Students*. This form asks you to describe the tutoring activities with specific studentsBthe ones who were randomly selected from the school to be in the study. This means that you may be providing information on only one student or on many. The names of the students who have been selected for the study will be provided at the time tutors are asked to complete the *Record of Reading Activities with Students*.

We know you are very busy, so we have tried to make the form as short and user-friendly as possible. It should take no more than 5 - 10 minutes for each student you are describing. The *Record of Reading Activities with Students* is attached, along with more detailed instructions on how to complete it.

Any questions about the study or how to fill out the form--please call ***Shana Cook toll-free at 1 - (888) 390-1214.***

Tutor Instructions
for
Record of Reading Activities with Students and Tutor Questionnaire

Introduction to the *AmeriCorps Tutoring Outcomes Study* Information for Tutors: Please read this sheet carefully, as it will save you time while answering our questions. If there is anything you do not clearly understand, please call Shana Cook at (888) 390-1214, the toll-free number listed at the bottom of the page, before you begin.

Record of Reading Activities with Students: Each Activities Record form allows space for describing the tutoring activities for up to 5 students. If you have 5 or fewer students selected for the study, you will only need to use one of the *Record* forms. If you have more than 5 students in the study, you will need to use a second *Record* form. If you have more than 10 students in the study, you will need to use a third *Record* form.

Also, if you need to describe some of your students for the designated week and the rest of your students for another week, please use a separate *Activities Record* form for each different week. We have sent you ten *Record* forms; you may need only one, or two, etc., depending on the number of students selected for the study. If you need more than the four *Record* forms, please call the number listed on the letter and more will be sent to you overnight.

1. In the first box, complete the information about yourself and your program.
2. In the second box, please write the names of the 5 students who are being described.

SECTIONS:

I-II. DURATION AND STRUCTURE OF TUTORING SESSIONS:
Please fill in each section, using one box for each student, if possible in the same order you filled the Record. From now on refer to the dates assigned by Abt Associates and written in this section.

III. CONTENT OF TUTORING SESSIONS:
For each student circle Y or N to indicate whether you worked on the following literacy activities. Again, fill in one box for each student, if possible in the same order you filled the Record.

IV. STUDENT INVOLVEMENT:
For each student, enter a number (1-4) that best describes that student during the tutoring week selected by Abt Associates. Enter a 9 if you do not know.

Tutor Questionnaire:

1. Write your name and last name
2. Write your age
3. Check only one
4. Check only one
5. Check only one
6. If your answer is YES, answer questions 6a, 6b
   If your answer is NO, then go directly to question 7
7. Check only one

Record of Reading Activities with Students

On the *Record of Reading Activities with Students*, you will answer a set of questions about the tutoring activities during a particular school week for each of the students you tutor who have been selected for the study. We want you to complete these questions during a designated week that is determined in advance by Abt Associates. For the fall data collection, please fill out the form on your students for the school week beginning:

Monday, May 8th through Friday, May 12th, 2000

1. Please write your name and the date you fill out this record below. We will assign you a unique identification number. Your name is linked to this ID number only on a list that is kept at Abt Associates in a locked file that cannot be accessed by anyone other than senior study staff.

Tutor Name:_____

ID:_____ **(To be assigned by Abt Associates)**

Program ID:_____

School/Site ID:_____

Date you are filling out this record: ____/____/_____
MM / DD / YYYY

Posttest: Cycle 2

2. If any student misses more than 25%, or a quarter, of his/her tutoring sessions during the specified week, please fill out the form on these students based on activities during the next 5-day week of tutoring. Cross out the preprinted date on your form and enter the new dates of the week selected on the form and in the box above.

   On each *Record* form, the tutoring activities described for each child should all occur during the ***same*** 5-day week. If, for some of your students, you need to describe tutoring activities during another week, always use a ***new*** *Record* form and substitute the dates of the new week on the form and in the box above.

3. Before you begin this *Record* form, ***please list below the students who are being described***. On the form, you will use ***one column for each student. You should never be describing two students in the same column.***

Student Number	Student Name	Student ID#
Student 1		
Student 2		
Student 3		
Student 4		
Student 5		

Thank you for taking time to complete this questionnaire as part of the *Tutoring Outcomes Study!*

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SiteID# _____

I. DURATION OF TUTORING SERVICES

Thinking about the entire school year, 1999-2000 ...	Student 1 Name	Student 2 Name	Student 3 Name	Student 4 Name	Student 5 Name
1. Is this student still receiving tutoring services in reading? ***If student is no longer tutored, answer Q.s 1a & 1b. If student is still tutored, GO TO Q. 2***	*Y* *N*	*Y* *N*	*Y* *N*	*Y* *N*	*Y* *N*
*1a. **(If Student is no longer tutored)** When did reading tutoring end for this student? Please enter date in column.*	-----/-----/-----	-----/-----/-----	-----/-----/-----	-----/-----/-----	-----/-----/-----
*1b. **(If Student is no longer tutored)** Why did reading tutoring end for this student? Circle number(s) for reason code(s) in column. Or, write in reason & student # as other specify below.* *1. Student no longer at school* *2. Student no longer needed assistance* *3. Behavioral problem* *4. Tutor Unavailable (e.g., Left Program, Illness)* *5. Tutoring program ended* *6. Other Specify:_____/Student #____* *GO TO NEXT STUDENT & ANSWER ALL OF Q.1*	*1* *2* *3* *4* *5* *6*	*1* *2* *3* *4* *5* *6*	*1* *2* *3* *4* *5* *6*	*1* *2* *3* *4* *5* *6*	*1* *2* *3* *4* *5* *6*
2. Were you the tutor who worked with this student when we tested him/her the first time? ***If no, answer Q.s 2a & 2b. If tutor DID NOT change, GO TO Section II.***	*Y* *N*	*Y* *N*	*Y* *N*	*Y* *N*	*Y* *N*
*2a. **(If Tutor changed)** When did reading tutor change for this student? Please enter date in column.*	-----/-----/-----	-----/-----/-----	-----/-----/-----	-----/-----/-----	-----/-----/-----
*2b. **(If Tutor changed)** Why did reading tutor change for this student? Circle number(s) for reason code(s) in column. Or, write in reason & student # as other specify below.* *1. Behavioral problem* *2. Personality conflict with student* *3. Tutor Unavailable (e.g., Left Program, Illness)* *4. Scheduling Conflict* *5. Other Specify:_____/Student #____* *GO TO NEXT STUDENT & ANSWER ALL OF Qs 1 & 2*	*1* *2* *3* *4* *5*	*1* *2* *3* *4* *5*	*1* *2* *3* *4* *5*	*1* *2* *3* *4* *5*	*1* *2* *3* *4* *5*

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SiteID#_____

II. DURATION AND STRUCTURE OF TUTORING SESSION(S)

During the week of: Monday, May 8th - Friday, May 12th, 2000 ...	Student 1 Name	Student 2 Name	Student 3 Name	Student 4 Name	Student 5 Name
1. Number of hours I was scheduled/expected to work with student. Indicate total number of hours scheduled, regardless of whether the student was absent or otherwise unable to participate:					
2. Number of hours I actually worked with student:					
Of the total number of hours I worked with student:					
2a. Number of hours I worked with him/her one-on-one:					
2b. Number of hours I worked with him/her as part of a small group (2-4 students):					
2c. Number of hours I worked with him/her as part of a larger group (5 or more students):					

III. CONTENT OF TUTORING SESSION(S)

For each student, circle **Y** or **N** to indicate whether you worked on the following literacy activities with him/her.

During this week (Refer to Dates in Section I.)	Student 1 Cont.	Student 2 Cont.	Student 3 Cont.	Student 4 Cont.	Student 5 Cont.
3. (i) I helped with the mechanics of reading (phonics, decoding)	Y N	Y N	Y N	Y N	Y N
(ii) I helped with comprehension of text (vocabulary development, word recognition, discussing meaning of a passage or story)	Y N	Y N	Y N	Y N	Y N
(iii) I read aloud to student	Y N	Y N	Y N	Y N	Y N
(iv) I listened to student read aloud	Y N	Y N	Y N	Y N	Y N
(v) I helped with reading of language homework	Y N	Y N	Y N	Y N	Y N
(vi) I worked with the student on other activities not related to literacy or reading	Y N	Y N	Y N	Y N	Y N

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Site ID# _____

IV. STUDENT INVOLVEMENT

For each student, enter a number (1-4 or 8) that best describes that student during the tutoring week of interest (Refer to dates in Section I):

1 = Usually/most of the time
2 = Some of the time
3 = A few times/every now and then
4 = Almost never/never
8 = Don't know

During this week (Refer to Dates in Section I.)	Student 1 Cont.	Student 2 Cont.	Student 3 Cont.	Student 4 Cont.	Student 5 Cont.
4. Student and I developed a positive working relationship. ("Positive relationship" includes getting along with me, being friendly to me, not opposing or arguing with me, cooperating with me, and going along with my suggestions/activities.)					
5. Student focused on and was actively involved in activities with me.					
6. Student appeared to have (or said that he/she had) learned something as a result of our work together.					
7. Student seemed motivated/interested in learning.					
8. Student seemed confident about his/her reading/literacy abilities.					

V. STUDENT TUTORING END DATE:

11. When will reading tutoring end for this student? Please enter date (mm/dd/yyyy).	-----/-----/-----	-----/-----/-----	-----/-----/-----	-----/-----/-----	-----/-----/-----

Thank you for taking the time to complete this questionnaire!

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Site ID#: _____ Tutor ID#: _____ (To be assigned by Abt Associates)

TUTOR QUESTIONNAIRE I

1. _____
Your First Name Your Last Name

2. Your age: _____ 3. Are you: (check one) 1. ☐ Female 2. ☐ Male

4. What is the last level of school you completed? (check one)

1. ☐ Some high school
2. ☐ Completed high school (or GED)
3. ☐ Some college (or Associates Degree)
4. ☐ Completed college
5. ☐ Some graduate study
6. ☐ Completed graduate study

At First Administration of Questionnaire:

5. You are: (check one)

1. ☐ An AmeriCorps member
2. ☐ A volunteer recruited by AmeriCorps
3. ☐ A volunteer not recruited by AmeriCorps (although you may be supervised by AmeriCorps staff)

6. ***Before you started tutoring this year***, did you receive any training from either AmeriCorps or another source in how to tutor children? (check one)

1. ☐ Yes ☐ **Go to question 6a** 2. ☐ No ☐ **Go to question 7**

6a. If you did receive training, in what subject area? (check all that apply)

1. ☐ Reading 2. ☐ Math Science 3. ☐ Other subject area 4. ☐ General tutoring skills

6b. Estimate the amount of training you have received this school year on how to tutor children from AmeriCorps and from other sources? (check one in each column)

From AmeriCorps		**From other sources**
1. ☐	Less than 5 hours	1. ☐
2. ☐	6-10 hours	2. ☐
3. ☐	11-15 hours	3. ☐
4. ☐	More than 15 hours	4. ☐

7. Prior to this school year, had you ever tutored before? (check one) 1. ☐ Yes 2. ☐ No

7a. If you had tutored before, was it in reading? (check one) 1. ☐ Yes 2. ☐ No

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Site ID#: _____ Tutor ID#: _____ (To be assigned by Abt Associates)

TUTOR QUESTIONNAIRE II

1. _____
Your First Name Your Last Name

2. Your age: _____ 3. Are you: (check one) 1. ☐ Female 2. ☐ Male

4. What is the last level of school you completed? (check one)

1. ☐ Some high school
2. ☐ Completed high school (or GED)
3. ☐ Some college (or Associates Degree)
4. ☐ Completed college
5. ☐ Some graduate study
7. ☐ Completed graduate study

At Last Administration of Questionnaire:

5. ***Since you started tutoring this school year***, have you received any training on how to tutor?

1. ☐ Yes ☐ **Go to question 6** 2. ☐ No ☐ **Go to the next page**

6. Estimate the amount of training you received this school year on how to tutor children from AmeriCorps and from other sources: (check one in each column)

From AmeriCorps		**From other sources**
1. ☐	Less than 5 hours	1. ☐
2. ☐	6-10 hours	2. ☐
3. ☐	11-15 hours	3. ☐
4. ☐	More than 15 hours	4. ☐

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<PROGRAM NAME>
ID NUMB: #

Program Director Questionnaire

AmeriCorps Tutoring Outcomes Study

The purpose of these questions is to collect updated information about several aspects of *AmeriCorps State/National* programs that are participating in the *AmeriCorps Tutoring Outcomes Study during the 1999-2000 year.* As you are aware, this study is limited to programs like yours that are providing tutoring in reading, i.e., activities intended to foster the development of children's reading ability, provided either directly (e.g., one-to-one instruction) or in group settings.

1. **At the current time, approximately, how many students are served at each grade level *across all your program sites* for grades 1 through 3?**

   1. GRADE 1 # of students _____ 4-6
   2. GRADE 2 # of students _____ 7-9
   3. GRADE 3 # of students _____ 10-12

2. **How many members and volunteers tutor children in reading in grades 1 to 3 across all your program sites?**

   1. All Sites # of members tutoring in reading _____ 13-15
   2. All Sites # of volunteers tutoring in reading _____ 16-18

3. **Typically, how many days of tutoring PER WEEK *are planned* for each student to receive tutoring?** ***(Circle only one response #.)***

   1. Each day,
   2. Once a week,
   3. Twice a week, or
   4. Three to four times a week

   19

4. **On average, how long is each tutoring session planned to last?** ***(Circle only one response #.)***

   1. Less than 15 minutes,
   2. 15 - 30 minutes,
   3. 30 - 60 minutes,
   4. 60 - 90 minutes, or
   5. More than 90 minutes

   20

5. **Do students typically receive tutoring in reading from ...**

   1. One individual consistently from session to session
   2. Two individuals consistently from session to session, or
   3. More than two individuals across sessions

   21

<PROGRAM NAME>
ID NUMB: #

6. On average, how many children does a member or volunteer work with in a typical session? *(Circle only one response #.)*

    1. One student
    2. Two students
    3. Three to four students
    4. Five to six students, or
    5. Seven or more students

7. Do members receive any materials about and/or training in teaching reading to children?

    Reading Materials:
    1. YES 2. NO

    Reading Training:
    1. YES 2. NO

8. Do members receive any materials about and/or training in child development?

    Child Development Materials:
    1. YES 2. NO

    Child Development Training:
    1. YES 2. NO

9. Were training sessions conducted before members began provision of literacy services?

    1. YES # hours of training _____
    2. NO

10. Were sessions conducted during the time in which members are delivering services (e.g., from the beginning of the academic year to the present)?

    1. YES # hours of training _____
    3. NO

11. What, if any, instructional models are used? *(Circle response # for all that apply.)*

    1. No formal "brand name" model is used
    2. Success For All
    3. Howard Street Tutoring Model
    4. Reading Recovery
    5. Reading One-to-One
    6. Book Buddies
    7. Read*Write*Now
    8. Write-to-Read
    9. Other *(Please specify.)* _____

<PROGRAM NAME>
ID NUMB: #

12. **Is there an effort to coordinate and align reading tutoring services with classroom instruction?**

1. Yes → Go to Question 12a.
2. No

12a. **If "Yes," then how is this accomplished?** ***(Circle response # for all that apply.)***

1. Regular meetings between the tutor and teacher
2. Formal reporting procedures, or
3. Other ***(Please specify.)*** _____

13. **Typically, do tutors have contact with the reading specialist at the school?**

1. Yes → Go to Question 13a.
2. No

13a. **If "Yes," what form does this contact with the reading specialist take?** ***(Circle response # for all that apply.)***

1. Reading Specialist helps plan reading activities for the children's tutor,
2. Reading Specialist provides ongoing monitoring or consultation during the school year,
3. Reading Specialist supplies materials, or
4. Reading Specialist assists with instruction for participating students

14. **Do you conduct a formal evaluation to assess the effectiveness of your reading tutoring program?**

1. YES 2. NO

15. **Please assess the extent to which your *reading tutoring program* has reached full implementation. That is, are all the components in place and being conducted as envisioned? Please select the box that best describes the level of implementation you think your program has reached at the present time.** ***(Circle only one response #.)***

1. *Low level of implementation:* most or all parts of the program are not yet fully in place,
2. *Partial implementation:* some components of the tutoring program are in place and operating as planned,
3. *Moderate implementation:* most components of the tutoring program are in place and operating as planned, or
4. *Full implementation:* all components of the tutoring program are in place and operating as planned.

Please FAX completed questionnaire to Shana Cook @ (617) 520-2954. Or, mail it back in the postage-paid envelope provided as soon as possible.

Thank you for your continued support for our AmeriCorps Tutoring Outcomes Study. We look forward to our spring post-test period with the children in your program.

APPENDIX C

ANALYTIC PROCEDURES AND RESULTS OF EFFECTIVE PRACTICES AND STUDENT GAINS

APPENDIX C

Procedures and Results of Effective Practices and Student Reading Outcomes

This appendix details the procedures used to examine the effects of program-level tutoring components on students' reading achievement using a multi-level regression technique known as Hierarchical Linear Modeling (HLM).[1] Given the data structure of this study, HLM is preferable to single-level statistical techniques (e.g., Ordinary Least Squares) because HLM accounts for the bias associated with data structures that are nested (e.g., students are nested within programs) and allows the regression equations estimating the effects of variables at both the student and program levels to be modeled simultaneously.

With the exception of gender, all variables were centered at their grand mean to adjust for differences among units in the percentage of the given variable. In addition, third grade observations were used as the reference point, thus the intercept represented the expected outcome for third graders.[2] For all analyses, data were initially fit to a "no covariate" (i.e., baseline or null) model for each of the two achievement gain scores (reading comprehension and reading skill). These models tell us whether gains in the reading scores varied across programs. Analysis of the variance components revealed that there was variation in scores to be explained at the program-level. Thus, in all analyses, data were fit to a two-level HLM model. Level one represented student-level information, including students' grade and gender. Level two represented program-level information, such as indicators of effective practices.

Forty programs had complete data for every program-level predictor. Rather than discard the remaining 28 schools, we imputed the average program-level score for each missing characteristic. Programs that were missing information for more than two program-level characteristics were excluded from analyses. As a result, the final analytic sample included 64 programs. In all analyses involving imputed data, we modeled a dummy variable that represented whether or not a particular characteristic had been imputed for that program. This allowed us to determine whether the imputation itself was associated with gains in reading achievement.

Analyses were performed for each outcome variable (i.e., reading skills gain and reading comprehension gain). Exhibit C1 presents the regression coefficients and levels of significance for the models that predict gains in reading skills. Exhibit C2 displays the results of one multi-level model that examined the relationship between four effective tutoring practices and gains in reading skills. The reference group in this analysis (i.e., the omitted variable) represented the programs that employed all four of the effective practices identified

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[1] Bryk, A.S., and Raudenbush, S.W. (1992). *Hierarchical Linear Models: Applications and Data Analysis Methods*. London: Sage Publications.

[2] To explore the effects of grade further, we conducted two additional sets of analyses, centering data at grades 1 and 2, respectively. Results of these analyses were similar to those when data were centered at grade 3.

Exhibit C1

Two-Level Hierarchical Linear Modeling of the Effects of Program Characteristics on Student Gains in Reading Skills

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Fixed Effects										
Intercept	3.52****	2.35**	2.37**	2.45**	2.32**	2.37**	2.39**	2.38***	2.38***	2.61**
(L1) Grade		-1.05**	-1.02**	-.99**	-.99**	-.99**	-1.02**	-1.03**	-1.00**	-1.02**
(L1) Gender		.24	.23	.30	.25	.27	.27	.27	.27	.26
(L2) Whether had a formal evaluation		2.37**								
(L2) Fully implemented			1.91*							
(L2) Meet more than twice a week				2.07*						
(L2)Training both prior and during					2.21*					
(L2)Dummy for imputation on training					1.74					
(L2) No formal program used						-1.40				
(L2) Dummy for imputation on formal program						1.50				
(L2) Number of hours tutored							-.05			
(L2) Coordinated program with instruction								-.50		
(L2) Dummy for imputation on coordination								.57		
(L2) Tutor had contact with reading specialist									.99	
(L2) Dummy for imputation on reading specialist									.52	
(L2) Proportion of tutoring time that is one to one										-.93
(L2) Dummy for imputation on one to one tutoring										-1.68

* p = .05, ** = p = .01, *** p = .001, **** p = .0001

Exhibit C2

Two-Level Hierarchical Linear Modeling of the Effects of a Combination of Effective Program Characteristics on Student Gains in Reading Skills

Parameters	Model 1
Fixed Effects	
Intercept	2.35**
(L1) Grade	-1.00**
(L1) Gender	0.28
(L2) Program had three effective components	-3.10*
(L2) Program had two effective components	-3.66**
(L2) Program had one effective component	-3.67*
(L2)Program had none of the identified effective components	-5.54***

* p = .05, ** p ≤ .01, *** p ≤ .001, **** = p ≤ .0001

Note: The reference group is programs that had 4 effective components.

in Exhibit C1. Other multi-level models were fitted to examine whether other combinations of effective practices differed from each other (e.g., to compare the gain scores of students in programs with three versus two effective practices). Results of the post-hoc analyses showed that those in programs with three effective practices showed greater gains than did those in programs with none of the four effective practices ($p = .04$).

Exhibit C3 displays coefficients and significance levels for the multi-level models predicting students' gains in reading comprehension.

Exhibit C3

Two-Level Hierarchical Linear Modeling of the Effects of Program Characteristics on Student Gains in Reading Comprehension

Parameters	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Fixed Effects										
Intercept	3.77****	1.73*	1.74*	1.74*	1.72*	1.71*	1.74*	1.75*	1.78*	2.23**
(L1) Grade		-1.23**	-1.22**	-1.23**	-1.21**	-1.21**	-1.24**	-1.27***	-1.22***	-1.22**
(L1) Gender		1.70***	1.69***	1.70***	1.70***	1.71***	1.70***	1.73***	1.70**	1.71***
(L2) Whether had a formal evaluation		2.10								
(L2) Fully implemented			1.18							
(L2) Meet more than twice a week				-0.27						
(L2) Training both prior and during					2.41					
(L2) Dummy for imputation on training					0.43					
(L2) No formal program used						-1.01				
(L2) Dummy for imputation on formal program						1.19				
(L2) Number of hours tutored							-2.33			
(L2) Coordinated program with instruction								-3.71*		
(L2) Dummy for imputation on coordination								-2.09		
(L2) Tutor had contact with reading specialist									.80	
(L2) Dummy for imputation on reading specialist									-2.24	
(L2) Proportion of tutoring time that is one-to-one										-2.45
(L2) Dummy for imputation on proportion of one-to-one tutoring										-3.47*

* p < .05, ** p < .01, *** p < .001, **** p < .0001